

AUDIO/VIDEO MULTI-CHANNEL RECEIVER

VSX-54TX

ELITE

Register your product at www.pioneerelectronics.com

- Protect your new investment
 - The details of your purchase will be on file for reference in the event of an insurance claim such as loss or theft.
- · Receive free tips, updates and service bulletins on your new product
- Improve product development
 - Your input helps us continue to design products that meet your needs.
- Receive a free Pioneer newsletter Registered customers can opt in to receive a monthly newsletter.

Operating Instructions



The lightning flash with arrowhead, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

CAUTION

RISK OF ELECTRIC SHOCK DO NOT OPEN

CAUTION:

TO PREVENT THE RISK OF ELECTRIC SHOCK DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

D1-4-2-3 En

Thank you for buying this Pioneer product. Please read through these operating instructions so you will know how to operate your model properly. After you have finished reading the instructions, put them away in a safe place for future reference.

WARNING: Handling the cord on this product or cords associated with accessories sold with the product will expose you to lead, a chemical known to the State of California and other governmental entities to cause cancer and birth defects or other reproductive harm.

Wash hands after handling

D36-P4 En

WARNING - TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

D1-4-2-1 Fn

CAUTION

- TO PREVENT ELECTRIC SHOCK DO NOT USE THIS (POLARIZED) PLUG WITH AN EXTENSION CORD. RECEPTACLE OR OTHER OUTLET UNLESS THE BLADES CAN BE FULLY INSERTED TO PREVENT BLADE EXPOSURE.

ATTENTION - POUR PREVENIR LES CHOCS ELECTRIQUES, NE PAS UTILISER CETTE FICHE POLARISEE AVEC UN PROLONGATEUR, UNE PRISE DE COURANT, OU UNE AUTRE SORTIE DE COURANT, SAUF SI LES LAMES PEUVENT ETRE INSEREES A FOND SANS EN LAISSER AUCUNE PARTIE A DECOUVERT. D2-4-4-1 EF

IMPORTANT NOTICE – THE SERIAL NUMBER FOR THIS EQUIPMENT IS LOCATED IN THE REAR. PLEASE WRITE THIS SERIAL NUMBER ON YOUR ENCLOSED WARRANTY CARD AND KEEP IN A SECURE AREA. THIS IS FOR YOUR SECURITY. D1-4-2-6-1_En

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la Classe B est conforme à la norme NMB-003 du Canada.

D8-10-1-3_EF

Information to User

Alteration or modifications carried out without appropriate authorization may invalidate the user's right to operate the equipment. D8-10-2 En

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

D8-10-1-2 En

CAUTION: This product satisfies FCC regulations when shielded cables and connectors are used to connect the unit to other equipment. To prevent electromagnetic interference with electric appliances such as radios and televisions, use shielded cables and connectors for connections. D8-10-3a En

IMPORTANT SAFETY INSTRUCTIONS

- **READ INSTRUCTIONS** All the safety and operating instructions should be read before the product is operated.
- RETAIN INSTRUCTIONS The safety and operating instructions should be retained for future reference
- **HEED WARNINGS** All warnings on the product and in the operating instructions should be adhered to
- **FOLLOW INSTRUCTIONS** All operating and use instructions should be followed.
- CLEANING The product should be cleaned only with a polishing cloth or a soft dry cloth. Never clean with furniture wax, benzine, insecticides or other volatile liquids since they may corrode the cabinet
- **ATTACHMENTS** Do not use attachments not recommended by the product manufacturer as they may cause hazards.
- WATER AND MOISTURE Do not use this product near water for example, near a bathtub, wash bowl, kitchen sink, or laundry tub; in a wet basement; or near a swimming pool: and the like.
- ACCESSORIES Do not place this product on an unstable cart, stand, tripod, bracket, or table. The product may fall, causing serious injury to a child or adult, and serious damage to the product. Use only with a cart, stand, tripod, bracket, or table recommended by the manufacturer, or sold with the product. Any mounting of the product should follow the manufacturer's instructions, and should use a mounting accessory recommended by the manufacturer.
- CART A product and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the product and cart combination to overturn.



- VENTILATION Slots and openings in the cabinet are provided for ventilation and to ensure reliable operation of the product and to protect it from overheating, and these openings must not be blocked or covered. The openings should never be blocked by placing the product on a bed, sofa, rug, or other similar surface. This product should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided or the manufacturer's instructions have been adhered to
- POWER SOURCES This product should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supply to your home, consult your product dealer or local power company.
- LOCATION The appliance should be installed in a stable location
- NONUSE PERIODS The power cord of the appliance should be unplugged from the outlet when left un-used for a long period of time.

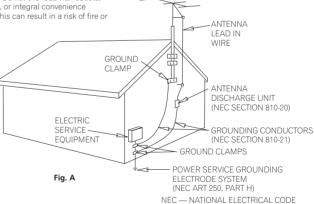
GROUNDING OR POLARIZATION

- If this product is equipped with a polarized alternating current line plug (a plug having one blade wider than the other), it will fit into the outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug should still fail to fit, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the polarized plug.
- If this product is equipped with a three-wire grounding type plug, a plug having a third (grounding) pin, it will only fit into a grounding type power outlet. This is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the grounding type plug.
- POWER-CORD PROTECTION Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the product.
- OUTDOOR ANTENNA GROUNDING If an outside antenna or cable system is connected to the product, be sure the antenna or cable system is grounded so as to provide some protection against voltage surges and built-up static charges. Article 810 of the National Electrical Code, ANSI/NFPA 70, provides information with regard to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna-discharge unit, connection to grounding electrodes, and requirements for the grounding electrode. See Figure A.
- LIGHTNING For added protection for this product during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna or cable system. This will prevent damage to the product due to lightning and power-line surges.
- POWER LINES An outside antenna system should not be located in the vicinity of overhead power lines or other electric light or power circuits, or where it can fall into such power lines or circuits. When installing an outside antenna system, extreme care should be taken to keep from touching such power lines or circuits as contact with them might be fatal.
- **OVERLOADING** Do not overload wall outlets, extension cords, or integral convenience receptacles as this can result in a risk of fire or electric shock.



- kind on the product.

 SERVICING Do not attempt to service this product yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.
- DAMAGE REQUIRING SERVICE Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following conditions:
- When the power-supply cord or plug is damaged.
- If liquid has been spilled, or objects have fallen into the product.
- If the product has been exposed to rain or water.
 If the product does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the product to its normal operation.
- If the product has been dropped or damaged in any way.
- When the product exhibits a distinct change in performance — this indicates a need for service.
- REPLACEMENT PARTS When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock, or other
- SAFETY CHECK Upon completion of any service or repairs to this product, ask the service technician to perform safety checks to determine that the product is in proper operating condition.
- **WALL OR CEILING MOUNTING** The product should not be mounted to a wall or ceiling.
- HEAT The product should be situated away from heat sources such as radiators, heat registers, stoves, or other products (including amplifiers) that produce heat.



For U.S. and Australia Model

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This product is for general household purposes. Any failure due to use for other than household purposes (such as long-term use for business purposes in a restaurant or use in a car or ship) and which requires repair will be charged for even during the warranty period.

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Chapter 1 Before you start

Features

• Easy setup using Advanced Multichannel Acoustic Calibration (MCACC)

Setting up for home theater sound is as easy as connecting your speakers, a DVD player or other source, and your TV. The Auto Surround Setup provides a quick but accurate surround sound setup, while for complete surround sound control you still have access to the full range of surround sound settings.

In addition, the Professional Acoustic Calibration setup measures the reverb characteristics of your listening area, allowing you to customize your system calibration with the help of a graphical output that can be displayed on-screen, or using a computer.

Dolby Digital and DTS decoding, including Dolby Digital EX, DTS 96/24 and DTS-ES

Dolby Digital and DTS decoding brings theater sound right into your home with up to six channels of surround sound, including a special LFE (Low Frequency Effects) channel for deep, realistic sound effects.

The built-in Dolby Pro Logic IIx and DTS Neo:6 decoders not only provide full surround sound decoding for Dolby Surround sources, but will also generate convincing surround sound for any stereo source.

Also, with the addition of a surround back speaker, you can take advantage of the built-in Dolby Digital EX and DTS-ES decoders for six-channel surround sound.

Seamless video conversion

With the Pioneer video converter, you can use a wide range of cables interchangeably, giving you more flexibility when making video connections.

• Fine-tuned to world-class standards

With the cooperation of the world-class studio engineers at AIR Studios, this receiver amplifier has been designated AIR Studios Monitor.



Checking the supplied accessories

Please check that you've received the following supplied accessories:

Setup microphone and stand





· Remote control unit



• Alkaline batteries (AA IEC LR6) x 2



AM loop antenna



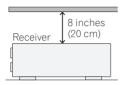
· FM wire antenna



- These operating instructions
- · Warranty card

Ventilation

When installing this unit, make sure to leave space around the unit for ventilation to improve heat dispersal (at least 8 in. (20 cm) at the top). If not enough space is provided between the unit and walls or other equipment, heat will build up inside, interfering with performance and/or causing malfunctions.



Slot and openings in the cabinet are provided for ventilation and to protect the equipment from overheating. To prevent fire hazard, do not place anything on top of the unit, make sure the openings are never blocked or covered with items (such as newspapers, table-cloths and curtains), and do not operate the equipment on thick carpet or a bed.



Installing the receiver

• When installing this unit, make sure to put it on a level and stable surface.

Don't install it on the following places:

- on a color TV (the screen may distort)
- near a cassette deck (or close to a device that gives off a magnetic field). This may interfere with the sound.
- in direct sunlight
- in damp or wet areas
- in extremely hot or cold areas
- in places where there is vibration or other movement
- in places that are very dusty
- in places that have hot fumes or oils (such as a kitchen)

Opening the front panel

To open the front panel, push gently on the lower third of the panel with your finger.



Using the remote control

Loading the batteries

Load the batteries into the remote control as shown below using alkaline batteries (AA IEC LR6) batteries. When you notice a decrease in the operating range, replace all batteries with new ones.



Caution

Incorrect use of batteries can result in hazards such as leakage and bursting. Please observe the following:

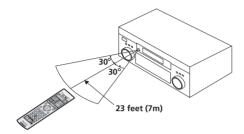
- · Don't mix new and old batteries together.
- Don't use different kinds of batteries together although they may look similar, different batteries may have different voltages.
- Make sure that the plus and minus ends of each battery match the indications in the battery compartment
- Remove batteries from equipment that isn't going to be used for a month or more.
- When disposing of used batteries, please comply with governmental regulations or environmental public instruction's rules that apply in your country or area.

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Operating range of the remote control

The operating range is quite large, but please keep in mind the following when using the remote control:

- Make sure that there are no obstacles between the remote and the remote sensor on the unit.
- The remote has a range of about 23 feet (7 meters).



- Remote operation may become unreliable if strong sunlight or fluorescent light is shining on the unit's remote sensor.
- Remote controllers for different devices can interfere with each other. Avoid using remotes for other equipment located close to this unit.

Chapter 2:

5 minute guide

Introduction to home theater

You are probably used to using stereo equipment to listen to music, but may not be used to home theater systems that give you many more options (such as surround sound) when listening to soundtracks.

Home theater refers to the use of multiple audio tracks to create a surround sound effect, making you feel like you're in the middle of the action or concert. The surround sound you get from a home theater system depends not only on the speakers you have set up in your room, but also on the source and the sound settings of the receiver.

DVD-Video has become the basic source material for home theater due to its size, quality, and ease of use. Depending on the DVD, you can have up to seven different audio tracks coming from one disc, all of them being sent to different speakers in your system. This is what creates a surround sound effect and gives you the feeling of 'being there'.

This receiver will automatically decode Dolby Digital, DTS, or Dolby Surround DVD-Video discs, according to your speaker setup. In most cases, you won't have to make changes for realistic surround sound, but other possibilities (like listening to a CD with multichannel surround sound) are explained in *Listening to your system* on page 37.

Setting up for Surround Sound

This receiver was designed with the easiest possible setup in mind, so with the following quick setup guide, you should have your system hooked up for surround sound in no time at all. In most cases, you can simply leave the receiver in the default settings.

Be sure to complete all connections before connecting this unit to the AC power source.

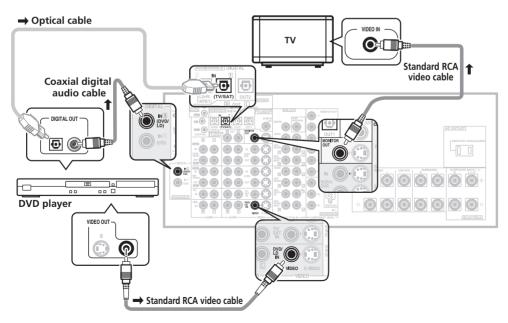
1 Hook up your DVD player.

For surround sound, you'll want to hook up using a digital connection from the DVD player to the receiver. You can do this with either a coaxial, or an optical connection (you don't need to connect both). If you hook up using an optical cable, you should refer to *The Input Assign menu* on page 72 to assign the optical input to **DVD/LD**.

Use a standard RCA video cable to connect your DVD player video output to the receiver using the jacks shown below.

2 Hook up your TV.

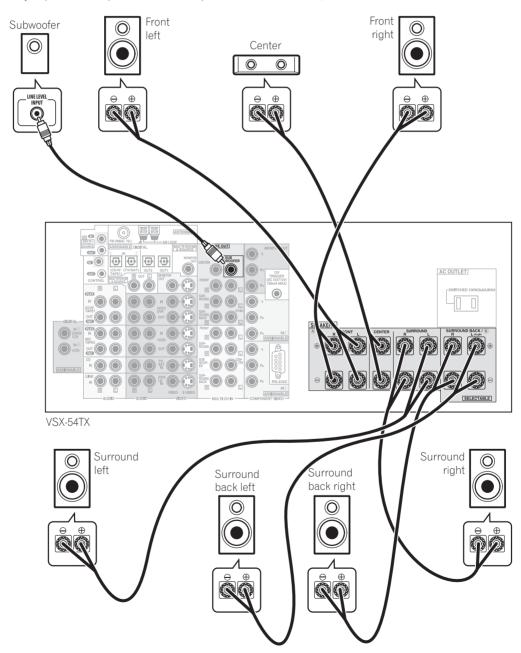
Use a standard RCA video cable to connect your receiver to the TV using the jacks as shown below.



3 Connect your speakers.

To take full advantage of the receiver's surround sound capabilities connect front, center, surround and surround back speakers, as well as a subwoofer. Although this is ideal, other configurations with fewer speakers—no subwoofer or no center speaker, or even no surround speakers—will work. At the very least, front left and right speakers only are necessary. Note that your main surround speakers should always be connected as a pair, but you can connect just one surround back speaker if you like (it must be connected to the left surround back terminal).

You can use speakers with a nominal impedance between $6-16\Omega$ (please see *Switching the speaker impedance* on page 63 if you plan to use speakers with an impedance of less than 8Ω).



5 minute guide

Each speaker connection on the receiver comprises a positive (+) red, and negative (-) black terminal. For proper sound you should take care to match these up with the terminals on the speakers themselves.

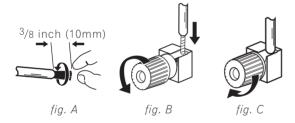
- If you only have one surround back speaker, hook it up to the surround back left (Single) terminal.
- If you're not using a subwoofer, change the front speaker setting (see Speaker Setting on page 50) to LARGE

Caution

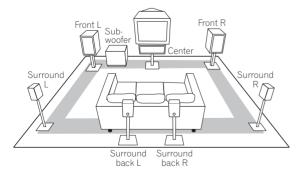
 Make sure that all the bare speaker wire is twisted together and inserted fully into the speaker terminal.
 If any of the bare speaker wire touches the back panel it may cause the power to cut off as a safety measure.

Make sure that the speaker cable you're going to use is properly prepared with about ³/₈ in. (10 mm) of insulator stripped from each wire, and the exposed wire strands twisted together (*fig. A*).

To connect a terminal, unscrew the terminal a few turns until there is enough space to insert the exposed wire (fig. B). Once the wire is in position, tighten the terminal until the wire is firmly clamped (fig. C).



Where you place the speakers will have a big effect on the sound. Place your speakers as shown below for the best surround sound effect. For more tips on speaker placement, see *Placing the speakers* on page 29.



4 Plug in the receiver and switch it on, followed by your DVD player, your subwoofer and the TV.

Make sure you've set the video input on your TV to this receiver. Check the manual that came with the TV if you don't know how to do this.

Also make sure that **DVD/LD** is showing in the receiver's display, indicating that the DVD input is selected. If it isn't, press **DVD/LD** on the remote control to set the receiver to the DVD input.

5 Use the on-screen Auto Surround Setup to set up your system.

See Automatically setting up for surround sound on the next page for more on this.

- **6** Play a DVD, and adjust the volume to your liking. In addition to the basic playback explained in *Playing a source* on page 14, there are several other sound options you can select. See *Listening to your system* on page 37 for more on this. See also *The Surround Setup menu* on page 49 for more setup options.
 - If you're not familiar with the proper DVD settings, refer to *Checking the settings on your DVD (or other)* player on page 14.

Automatically setting up for surround sound

The Auto Surround Setup measures the acoustic characteristics of your listening area, taking into account ambient noise, speaker size and distance, and tests for both channel delay and channel level. After you have set up the microphone provided with your system, the receiver uses the information from a series of test tones to optimize the speaker settings and equalization for your particular room.

Make sure you do this before moving on to *Playing a source* on page 14.



Important

- Make sure the microphone and speakers are not moved during the Auto Surround Setup.
- Using the Auto Surround Setup will overwrite any existing speaker settings in the receiver.
- The receiver will automatically exit the on-screen menu after three minutes of inactivity.



Caution

 The test tones used in the Auto Surround Setup are output at high volume.



1 Switch on the receiver and your TV. Use the & RECEIVER button to switch on.

2 Connect the microphone to the MCACC SETUP MIC jack on the front panel.

Make sure there are no obstacles between the speakers and the microphone.



 Place the microphone on the supplied microphone stand (shown above) for the best results with the Auto Surround Setup.



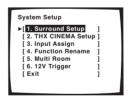
Important

• If you have a tripod, use it to place the microphone so that it's about ear level at your normal listening position. Otherwise, place the microphone at ear level using a table or a chair.

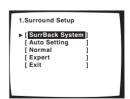
3 Press RECEIVER on the remote control, then press the SYSTEM SETUP button.

An on-screen display (OSD) appears on your TV. Use the †/‡ (cursor up/down) buttons and ENTER on the remote control to navigate through the screens and select menu items.

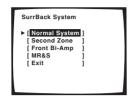
4 'Surround Setup' should be highlighted. Press ENTER.



5 'SurrBack System' should be highlighted. Press ENTER.

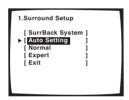


6 Make sure 'Normal System' is selected, then select 'Exit'.



 If you are planning on bi-amping your front speakers, or setting up a separate speaker system in another room, read through Surround back speaker setting on page 50 and make sure to connect your speakers as necessary before continuing to step 7.

7 'Auto Setting' should be highlighted. Press ENTER.



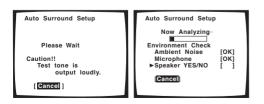
8 Follow the instructions on-screen.



- Make sure the microphone is connected.
- If you're using a subwoofer, switch it on and turn up the volume.
- See below for notes regarding high background noise levels and other possible interference.

9 Make sure 'Start' is selected, then press ENTER.

A progress report is displayed on-screen while the receiver outputs test tones to determine the speakers present in your setup. Try to be as quiet as possible while it's doing this.



Do not turn down the volume during the test tones.
 This may result in incorrect speaker settings.

10 Confirm the speaker configuration in the OSD.

The configuration shown on-screen should reflect the actual speakers you have.



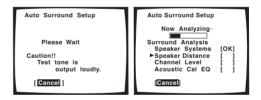
If the speaker configuration displayed isn't correct, use the ↑/↓ (cursor up/down) buttons to select **Retry**. Follow the instructions from step 8.

If the configuration is incorrect and you want to input the settings manually, select **ERR** → **Fix SP**. Use ↑ ↓ (cursor up/down) to select the speaker and to specify the size (and number for surround back). When you're finished, go to the next step.

If you see an **ERR** message in the right side column, there may be a problem with the speaker connection. If selecting **Retry** (above) doesn't fix the problem, turn off the power and check the speaker connections.

11 Make sure 'OK' is selected, then press ENTER.

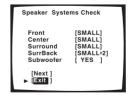
A progress report is displayed on-screen while the receiver outputs more test tones to determine the optimum receiver settings for channel level, speaker distance, and acoustic calibration EQ.



Again, try to be as quiet as possible while this is happening.

12 The Auto Surround Setup has finished! Select 'Exit' to go back to the Surround Setup menu.

The MCACC indicator continues to light to show the surround settings are complete.



The settings made in the Auto Surround Setup should give you excellent surround sound from your system, but it is also possible to adjust these settings manually using the Surround Setup menu (starting on page 49).

5 minute guide

You can also choose to view all the settings by selecting **Next**. Press **ENTER** after you have finished checking each screen. When you're finished, select **Exit** to go back to the Surround Setup menu.



- If you leave a check screen for over three minutes, or if you select Cancel at any time during the Auto Surround Setup, the receiver automatically exits and no settings will be made.
- Remember to disconnect the microphone after you've finished the Auto Surround Setup.

Other problems when using the Auto Surround Setup

If the room environment is not optimal for the Auto Surround Setup (too much background noise, echo off the walls, obstacles blocking the speakers from the microphone) the final settings may be incorrect. Check for household appliances (air conditioner, fridge, fan, etc.), that may be affecting the environment and switch them off if necessary.

Some older TVs may interfere with the operation of the microphone. If this seems to be happening, switch off the TV when doing the Auto Surround Setup.

Checking the settings on your DVD (or other) player

Before continuing, you may want to check the digital audio output settings on your DVD player and digital satellite receiver.

• Check that your DVD player/satellite receiver is set to output Dolby Digital, DTS and 88.2/96kHz PCM (2 channel) audio.

If there is an option for MPEG audio, set this to convert the MPEG audio to PCM.

If you connected the multichannel analog outputs of the player to this receiver, make sure that the player is set to output multichannel analog audio.



Depending on your DVD player or source discs, you
may only get digital 2 channel stereo and analog
sound. In this case, select one of the surround
listening modes (see Listening in surround sound on
page 37 if you need to do this) if you want
multichannel surround sound.

Playing a source

Here are the basic instructions for playing a source (such as a DVD disc) with your home theater system.

- 1 Turn on the power of the playback component (for example a DVD player), your TV and subwoofer (if you have one).
 - If your source is the TV's built-in tuner, then switch to
 the channel you want to watch, otherwise make sure
 that the TV's video input is set to this receiver. (For
 example, if you connected this receiver to the VIDEO
 1 jacks on your TV, make sure that VIDEO 1 input is
 now selected.)
- 2 If the receiver isn't already on, press O RECEIVER to switch it on.
- 3 Change the receiver input to the source you want to play.

You can use the front panel **MULTI JOG** dial or the dedicated **MULTI CONTROL** buttons on the remote control

4 Start playback of the DVD (or other component). If you're playing a Dolby Digital or DTS surround sound

DVD disc, you should hear surround sound. If you are playing a stereo source, you will only hear sound from the front left/right speakers in the default listening mode.

- See also Listening to your system on page 37 for more information on different ways of listening to sources.
- 5 Use the MASTER VOLUME control (front panel or remote) to adjust the volume level.
 - Turn down the volume of your TV so that all the sound is coming from the speakers connected to this receiver.



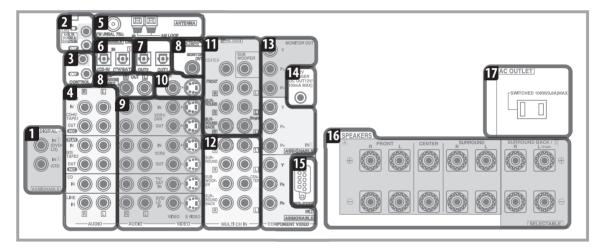
• For more detailed surround sound setup, see *The Surround Setup menu* on page 49.

Chapter 3

Connecting your equipment

This receiver provides you with almost limitless possibilities for connecting your audio/video system, but it doesn't have to be difficult. Depending on your needs, you could be up and running in no time after a few simple connections. This section has been designed so that you can read through this short introduction, then jump to the specific connections that you need to make. For a basic home theater setup, you may only need to look through the TV, DVD and speaker connections.

Rear panel



Caution

 Before making or changing the connections, switch off the power and disconnect the power cord from the power outlet. Plugging in components should be the last connection you make with your system.

1 Digital audio coaxial inputs

Two coaxial digital audio inputs for connecting digital audio sources to this receiver. All the inputs are freely assignable to input functions for maximum flexibility.

 If a connected component does not correspond to the input function (DVD/LD, etc.), see Assigning the digital inputs on page 72 to assign it properly.

2 IR input/output

An IR connection allows you to connect an external remote control sensor, when your component system is in a closed cabinet or shelving unit, for example. See *Connecting an IR receiver* on page 69 for connection details.

3 Control input/output

Mini-plug terminals for connection to other Pioneer components to enable you to control all your equipment from a single remote sensor. See *Operating other Pioneer components with this unit's sensor* on page 60 for connection details.

4 Stereo analog audio source inputs/outputs

Four sets of analog audio jacks for connection to audio sources such as CD players, tape decks and turntables. The **CD-R/TAPE1** and **MD/TAPE2** functions also feature outputs for recording. See *Connecting analog audio sources* on page 26 for connection details.

5 Antenna terminals

Connections for AM and FM radio antennas. See *Connecting antennas* on page 30 for connection details.

6 Digital audio optical inputs

Two optical digital audio inputs for connecting digital audio sources to this receiver. All the inputs are freely assignable to input functions for maximum flexibility.

• If a connected component does not correspond to the input function (**DVD/LD**, etc.), see *Assigning the digital inputs* on page 72 to assign it properly.

Connecting your equipment

7 Digital audio outputs

Two optical digital audio outputs for connecting to a CD-R, MD or other digital recorder. See *Connecting a VCR or DVD recorder* on page 22 for connection details.

8 Multi-room and source outputs

The analog audio outputs are for connection to a second amplifier in a separate room. The **MULTI-ROOM & SOURCE** composite video output is for connection to a second monitor or TV in a separate room. See *Multi-room listening* on page 67.

9 Audio/video source inputs

Each of the six source input functions has stereo analog audio jacks, a composite video jack and an S-video jack for basic connections. On top of these, you can assign digital audio and component video jacks to input functions as necessary. As well as audio/video inputs, the two input functions **VCR1/DVR** and **VCR2** also have audio/video outputs for recording. See *Connecting a VCR or DVD recorder* on page 22 for connection details.

10 Monitor video outputs

Two video outputs consisting of a standard composite video output and an S-video output, for connection to monitors and TVs. See *Connecting your TV* on page 18 for connection details.

11 Multichannel pre-amplifier outputs

Multichannel pre-amp outputs that you can use to connect separate amplifiers for center, surround, surround back and subwoofer channels. See *Multi-room listening* on page 67 for connection details.

12 Multichannel analog audio inputs

7.1 channel analog inputs for connection to a component with multichannel analog outputs. See *Connecting the multichannel analog outputs* on page 20 for connection details.

13 Component video inputs/output

The two component video inputs are freely assignable to any of the audio/video input functions. The component video output is for connection to a monitor or TV. See *Connecting other video sources* on page 23 for connection details.

14 12V trigger jack

This terminal outputs DC 12V according to the input functions (100 mA max.). See *Switching components on and off using the 12 volt trigger* on page 60 for connection details.

15 RS-232C connector

This port is provided for connecting a personal computer for graphical output when using Advanced MCACC.

16 Speaker terminals

These are the main speaker terminals for front, center, surround and surround back speakers. See *Installing your speaker system* on page 28 for connection details.

17 AC power outlet (Switched 100W max.)

This 120V AC power outlet can be used to power another component in your setup (up to 100 W). Power to this outlet is switched off when the receiver is in standby.

About the video converter

The video converter allows you to connect various video sources using composite, S-video or component video connections and the signal will be output through all of the **MONITOR VIDEO OUT** jacks. The only exception is component video input, which is only output from the component video output. Therefore, if you want to connect any source using component video, you must also connect your TV using component video. If several video components are connected to the same input function, the converter gives priority to component, S-video, then composite (in that order).

The following chart shows when the video signal will be converted from the various video inputs (left column) for output to the **MONITOR VIDEO OUT** jacks (top row):

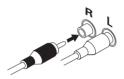
Video	MONITOR OUT		
terminal	VIDEO (Composite)	S-VIDEO	COMPONENT VIDEO
VIDEO IN (Composite)	✓	1	✓
S-VIDEO IN	✓	1	✓
COMPONENT VIDEO IN	×	×	7

- The \square mark above indicates that the component video input must be assigned before it will be output (see Assigning the component video inputs on page 72 for more on this).
- When recording video sources however, you won't be able to record sources connected to the component video inputs. With composite and S-video sources, they must be connected using the same type of video cable as you used to connect the recorder to the receiver.
- Also note that this feature is available with NTSC signals only. For a PAL signal, make sure you've used the same type of cable for your video component and monitor connections.

About cable types

Analog audio cables

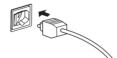
Use stereo RCA phono cables to connect analog audio components. These cables are typically red and white, and you should connect the red plugs to R (right) terminals and white plugs to L (left) terminals.



Digital audio cables

Commercially available coaxial digital audio cables or optical cables should be used to connect digital components to this receiver.





Coaxial digital audio cable

Optical cable

- When connecting optical cables, be careful when inserting the plug not to damage the shutter protecting the optical socket.
- When storing optical cable, coil loosely. The cable may be damaged if bent around sharp corners.
- You can also use a standard RCA video cable for coaxial digital connections.

Video cables

Standard RCA video cables

These cables are the most common type of video connection and should be used to connect to the composite video terminals. They have yellow plugs to distinguish them from cables for audio.



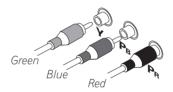
S-video cables

S-video cables give you clearer picture reproduction than regular video cables by sending separate signals for the luminance and color.



Component video cables

Use component video cables to get the best possible color reproduction of your video source. The color signal of the TV is divided into the luminance (\mathbf{Y}) signal and the color $(\mathbf{PB}$ and $\mathbf{PR})$ signals and then output. In this way, interference between the signals is avoided.



When making cable connections

Be careful not to arrange cables in a manner that bends the cables over the top or around this unit. If the cables are laid on top of the unit, the magnetic field produced by the transformers in this unit may cause a humming noise to come from the speakers.



Connecting your TV

This page shows you how to connect your TV to the receiver. To be able to play the sound from the TV's built-in tuner, connect the analog audio outputs from your TV to this receiver.

If your TV has a built-in digital decoder, you can connect the digital audio output to this receiver to enjoy Dolby Digital and DTS sound from digital TV broadcasts.

1 Connect the MONITOR OUT video jack on this receiver to a video input on your TV.

Make sure you don't connect to the **MONITOR OUT** connection for **MULTI ROOM & SOURCE**.

- You can use a standard RCA video cable to connect to the composite video jack, or for higher quality video, you can use an S-video cable to connect to the S-video jack (**S-VIDEO**).
- See *Using the component video jacks* on page 24 if you want to use the component video outputs to connect this receiver to your TV.
- See *About the video converter* on page 16 if you plan on connecting your other video components using different types of video cables than for your TV.

2 Connect the analog audio outputs from your TV to the TV/SAT inputs on this receiver.

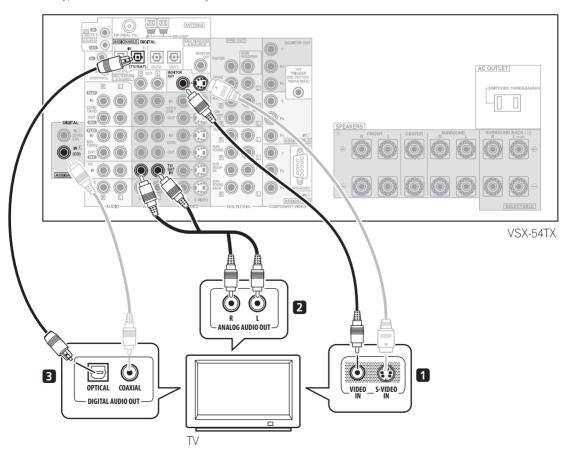
• Use a stereo RCA phono cable for the connection.

3 Connect an optical digital audio output from your TV to the DIGITAL 1 (TV/SAT) input on this receiver.

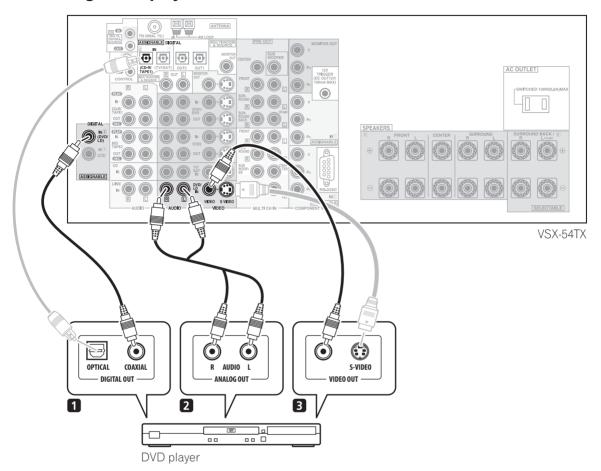
- Use an optical cable for the connection.
- If your TV only has a coaxial digital output, you can connect it to one of the coaxial inputs on this receiver using a coaxial digital audio cable. When you set up the receiver you'll need to tell the receiver which input you connected the TV to (see *Assigning the digital inputs* on page 72).

Note

 If your TV doesn't have a digital audio output, omit step 3 above.



Connecting a DVD player



Different DVD players offer a different selection of connections, but all should give you at least a digital audio output, stereo analog audio outputs and a video output. Additionally, you may have a player with multichannel analog audio outputs and different kinds of video outputs to choose from.

1 Connect a coaxial digital audio output on your DVD player to the DIGITAL 3 (DVD/LD) input on this receiver.

- Use a coaxial digital audio cable for the connection.
- If your DVD player only has an optical digital output, you can connect it to one of the optical inputs on this receiver using an optical cable. When you set up the receiver you'll need to tell the receiver which input you connected the player to (see Assigning the digital inputs on page 72).

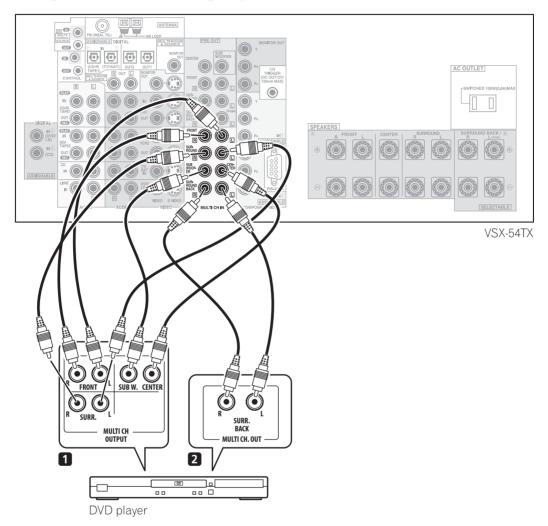
2 If your DVD player only has stereo analog audio outputs, connect these to the DVD/LD AUDIO inputs on this receiver.

- Use stereo RCA phono cables for the connection.
- If your DVD player has multichannel analog outputs, see Connecting the multichannel analog outputs below for how to connect it.

3 Connect a composite or S-video output on your DVD player to the DVD/LD VIDEO or DVD/LD S-VIDEO input on this receiver.

- Use a standard RCA video cable or an S-video cable for the connection.
- See About the video converter on page 16 if you plan to use a different type of video cable than you used to connect your TV.
- If your player also has a component video output, you can connect this too. See *Using the component video jacks* on page 24 for more on this.

Connecting the multichannel analog outputs



For DVD Audio and SACD playback, your DVD player may have 5.1, 6.1 or 7.1 channel analog outputs (depending on whether your player supports surround back channels).

- 1 Connect the front, surround, center and subwoofer outputs on your DVD player to the corresponding MULTI CH IN jack on this receiver.
 - Use standard RCA phono cables for the connections.
 - Take care to connect each output to its corresponding input on the receiver.
- 2 If your DVD player also has outputs for surround back channels, connect these to the corresponding MULTI CH IN jacks on this receiver.
 - Use standard RCA phono cables for the connections.

 If there is only a single surround back output, be sure to connect it to the SURROUND BACK L jack on this receiver.



 To listen to multichannel analog audio you'll need to press MULTI CH INPUT on the remote (see *Using the* multichannel analog inputs on page 40 for more on this).

Connecting a satellite/cable receiver or other set-top box

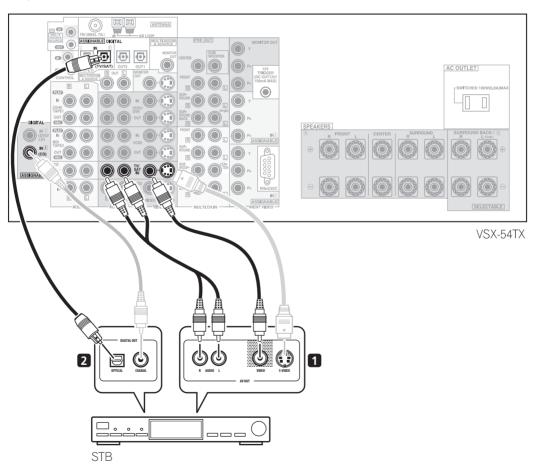
Satellite and cable receivers, and terrestrial digital TV tuners are all examples of so-called 'set-top boxes'.

- 1 Connect a set of audio/video outputs on the settop box component to the TV/SAT AUDIO and VIDEO inputs on this receiver.
 - Use a stereo RCA phono cable for the audio connection and a standard RCA video or S-video cable for the video connection.
 - See About the video converter on page 16 if you plan to use a different type of video cable than you used to connect your TV.
- 2 Connect an optical digital audio output from your set-top box component to the DIGITAL 1 (TV/SAT) input on this receiver.
 - Use an optical cable for the connection.

• If your set-top box only has a coaxial digital output, you can connect it to one of the coaxial inputs on this receiver using a coaxial digital audio cable. When you set up the receiver you'll need to tell the receiver which input you connected the set-top box to (see Assigning the digital inputs on page 72).

Mote

- If your satellite/cable receiver doesn't have a digital audio output, omit step 2 above.
- If you've already connected your TV to the **TV/SAT** inputs above, simply choose another input. However, you'll need to tell the receiver which input you connected the set-top box to (see *Assigning the digital inputs* on page 72).



Connecting a VCR or DVD recorder

This receiver has two sets of audio/video inputs and outputs suitable for connecting analog or digital video recorders, including VCRs, DVD-recorders and HDD recorders.

- See About the video converter on page 16 if you plan to use a different type of video cable than you used to connect your TV.
- 1 Connect a set of audio/video outputs on the recorder to the VCR 1/DVR AUDIO and VIDEO inputs on this receiver.
 - Use a stereo RCA phono cable for the audio connection and a standard RCA video or S-video cable for the video connection.
 - For a second recorder, use the VCR2 inputs.

2 Connect a set of audio/video inputs on the recorder to the VCR1/DVR AUDIO and VIDEO outputs on this receiver.

 Use a stereo RCA phono cable for the audio connection and a standard RCA video or S-video cable for the video connection. • For a second recorder, use the VCR2 outputs.

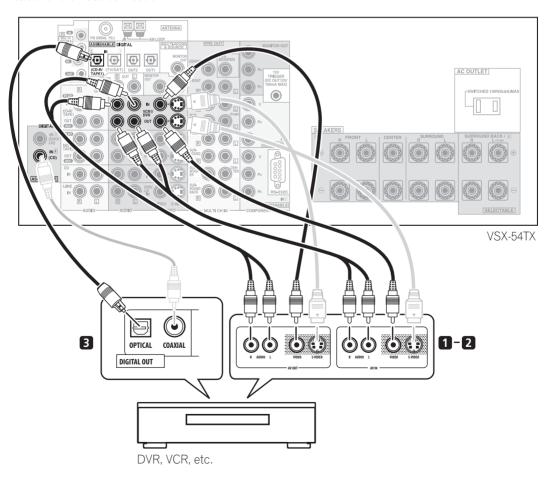
3 Connect an optical digital audio output from the recorder to a digital input on this receiver.

The example illustration below shows a recorder connected to the optical **DIGITAL 2 (CD-R/TAPE1)** input. When you set up the receiver you'll need to tell the receiver which input you connected the recorder to (see *Assigning the digital inputs* on page 72).

- Use a coaxial digital audio cable or an optical cable for the connection depending on the type of input you used.
- The digital outputs from another recorder can be connected to any spare digital audio input on this receiver. You can assign it when setting up the receiver (see Assigning the digital inputs on page 72).



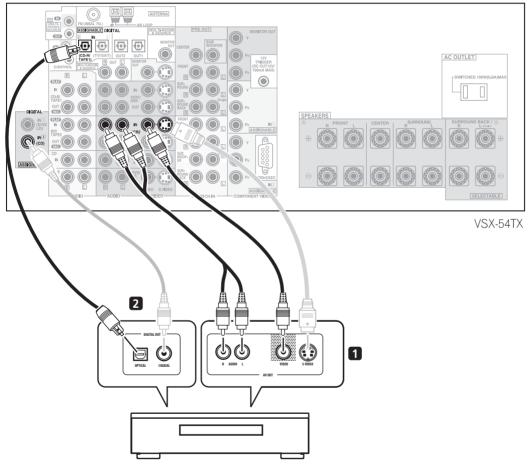
• If your video component doesn't have a digital audio output, omit step 3 above.



Connecting other video sources

You can basically use any of the audio/video inputs on this receiver for any kind of video source. The example illustration below shows a component connected to the **VCR2** inputs.

- 1 Connect the analog audio outputs and a video output of the source component to a set of spare audio/video inputs on this receiver.
 - Use a stereo RCA phono cable for the audio connection and a standard RCA video or S-video cable for the video connection.
- See About the video converter on page 16 if you plan to use a different type of video cable than you used to connect your TV.
- 2 If the source component has a digital audio output, connect it to a spare digital audio input on this receiver.
 - Use a coaxial digital audio cable or an optical cable for the connection depending on the type of input you used.
 - You may need to assign the digital input you used when setting up the receiver (see Assigning the digital inputs on page 72).



LD player, video player, TV game, etc.

Using the component video jacks

Component video should deliver superior picture quality when compared to composite or S-video. A further advantage (if your source and TV are both compatible) is progressive-scan video, which delivers a very stable, flicker-free picture. See the manuals that came with your TV and source component to check whether they are compatible with progressive-scan video.

Important

• If you connect any source component to the receiver using a component video input, you should also have your TV connected to this receiver's component video MONITOR output.

1 Connect the component video outputs of your source to a set of component video inputs on this receiver.

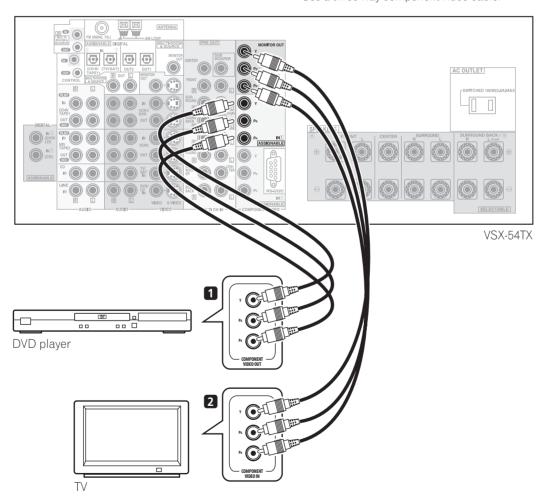
Use a three-way component video cable for the connection.

2 Assign the component video inputs to the input source you've connected.

This must be done so that they can be used in conjunction with the audio/video input(s) to which you have connected the component above (see Assigning the component video inputs on page 72 for more on this).

3 Connect the COMPONENT VIDEO MONITOR OUT jacks on this receiver to the component video inputs on your TV or monitor.

• Use a three-way component video cable.



Connecting digital audio sources

This receiver has both digital inputs and outputs, allowing you to connect digital components for playback and for making digital recordings. Many digital components also have analog connections for recording analog sources (such as a turntable or tape deck). See *Connecting analog audio sources* below for more on this.

1 Connect a coaxial digital output on your digital component to the DIGITAL 4 (CD) input on this receiver.

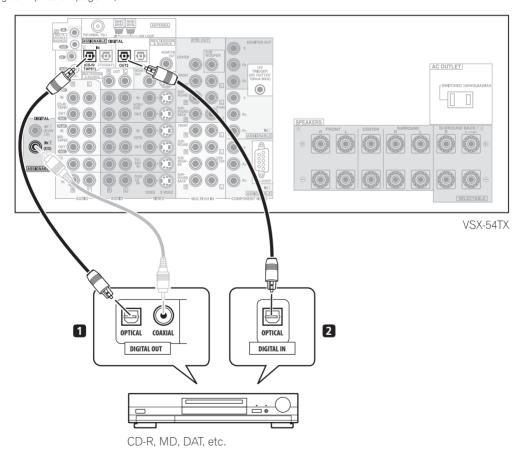
- Use a coaxial digital audio cable for the connection.
- If your digital compoent only has an optical digital output, you can connect it to one of the optical inputs on this receiver using an optical cable. When you set up the receiver you'll need to tell the receiver which input you connected the player to (see Assigning the digital inputs on page 72).
- The digital outputs from other components can be connected to any spare digital audio inputs on this receiver. You can assign them when setting up the receiver (see Assigning the digital inputs on page 72).

2 Connect one of the DIGITAL outputs on this receiver to a digital input on the component.

Use an optical cable to connect to the **DIGITAL** OUT1 or OUT2 (OUT2 is shown in the illustration below).

Note

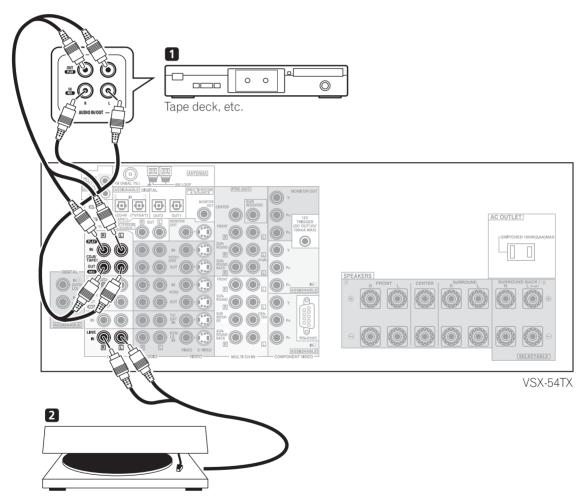
• In order to record some digital sources, you must make analog connections as explained in *Connecting analog audio sources* below.



Connecting analog audio sources

This receiver features four stereo audio-only inputs. Two of these inputs have corresponding outputs for use with audio recorders.

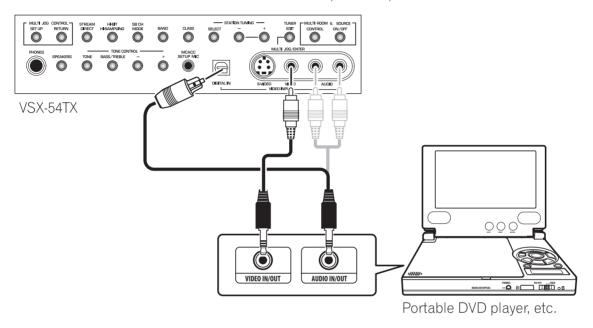
- 1 Connect the analog audio outputs of the source component to a set of spare audio inputs on this receiver.
 - If you're connecting a tape deck, MD recorder, etc., connect the analog audio outputs (REC) to the analog audio inputs on the recorder.
- Use a stereo RCA phono cable for the connections.
- 2 Connect the stereo audio outputs to the LINE inputs on this receiver.
 - If you use a turntable with this **LINE IN** jack only connect one with a built-in phono equalizer.



Connecting a component to the front panel inputs

The front panel inputs include a composite video jack (VIDEO), an S-video jack (S-VIDEO), stereo analog audio inputs (AUDIO L/R) and an optical digital audio input (DIGITAL). You can use these connections for any kind of audio/video component, but they are especially convenient for portable equipment such as camcorders, video games and portable audio/video equipment.

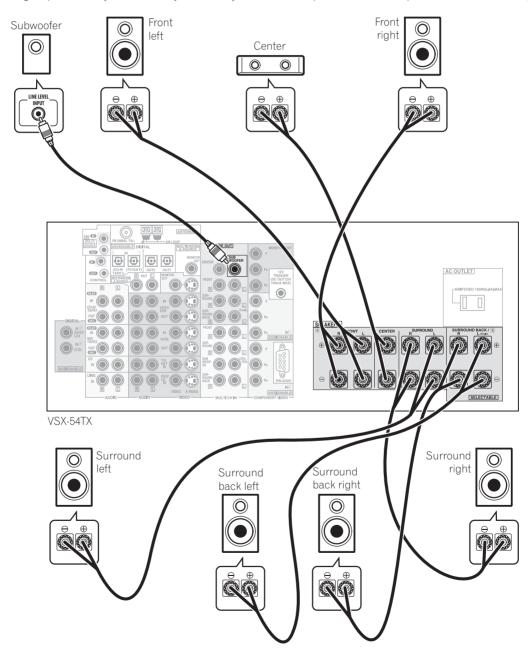
- The input signals can be accessed by selecting **VIDEO** as the input source.
- Pull down the front cover where indicated to access the front panel inputs.
- The illustration below shows example connections to a portable DVD player. Note that you may need a specialized optical cable for this connection.



Installing your speaker system

To take full advantage of the receiver's surround sound capabilities connect front, center, surround and surround back speakers, as well as a subwoofer. Although this is ideal, other configurations with fewer speakers—no subwoofer or no center speaker, or even no surround speakers—will work. At the very least, front left and right speakers only are necessary. Note that your

main surround speakers should always be connected as a pair, but you can connect just one surround back speaker if you like (it must be connected to the left surround back terminal). You can use speakers with a nominal impedance between 6–16 Ω (please see *Switching the speaker impedance* on page 63 if you plan to use speakers with an impedance of less than 8Ω).



Connecting your equipment

Connecting the speakers

Each speaker connection on the receiver comprises a positive (+) red, and negative (-) black terminal. For proper sound you should take care to match these up with the terminals on the speakers themselves.

• If you only have one surround back speaker, hook it up to the surround back left (**Single**) terminal.



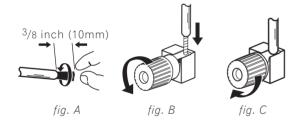
Caution

 Make sure that all the bare speaker wire is twisted together and inserted fully into the speaker terminal.
 If any of the bare speaker wire touches the back panel it may cause the power to cut off as a safety measure.

Bare wire connections

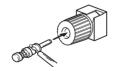
Before you start connecting the speakers, make sure that the speaker cable you're going to use is properly prepared with about $^{3}/_{8}$ in. (10 mm) of insulator stripped from each wire, and the exposed wire strands twisted together (*fig. A*).

To connect a terminal, unscrew the terminal a few turns until there is enough space to insert the exposed wire (*fig. B*). Once the wire is in position, tighten the terminal until the wire is firmly clamped (*fig. C*).



Banana plug connections

If you want to use speaker cables terminated with banana plugs, screw the speaker terminal fully shut then plug the banana plug into the end of the speaker terminal.





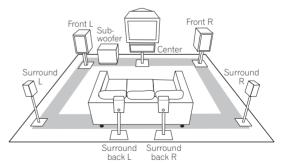
- Please refer to the manual that came with your speakers for details on how to connect the other end of the speaker cables to your speakers.
- If you are using a THX certified subwoofer use the THX INPUT jack on the subwoofer (if your subwoofer has one) or switch the filter position to THX on your subwoofer.

- The surround speaker terminals on this receiver can be connected in a number of ways, depending on your setup. See *Speaker Setting* on page 50 for an overview of the possible configurations.
- Other connections on page 65 provides greater detail on alternate speaker setups such as using speaker system B (page 65), bi-amping (page 66) and biwiring (page 66).

Placing the speakers

Where you put your speakers in the room has a big effect on the quality of the sound. The following guidelines should help you to get the best sound from your system.

- The subwoofer can be placed on the floor. Ideally, the other speakers should be at about ear-level when you're listening to them. Putting the speakers on the floor (except the subwoofer), or mounting them very high on a wall is not recommended.
- For the best stereo effect, place the front speakers 6–9 ft, apart, at equal distance from the TV.
- Install the center speaker above or below the TV so that the sound of the center channel is localized at the TV screen.
- When placing speakers near the TV, use magnetically shielded speakers to prevent possible interference, such as discoloration of the picture when the TV is switched on. If you do not have magnetically shielded speakers and notice discoloration of the TV picture, move the speakers farther away from the TV.
- If possible, install the surround speakers slightly above ear level.
- If you have two surround back speakers THX recommends placing them together and the same distance from your listening position.



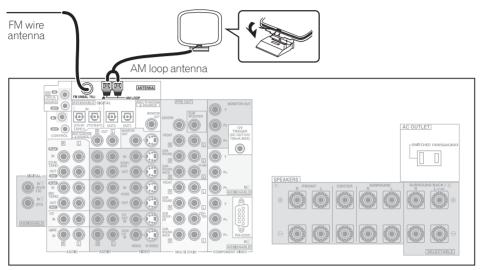
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Caution

Make sure that all speakers are securely installed.
 This not only improves sound quality, but also reduces the risk of damage or injury resulting from speakers being knocked over or falling in the event of external shocks such as earthquakes.

Connecting antennas

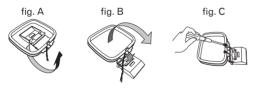
The supplied antennas provide a simple way to listen to AM and FM radio. If you find that reception quality is poor, an outdoor antenna should give you better sound quality—see *Connecting external antennas* below.



VSX-54TX

AM loop antenna

1 Assemble the stand as shown in the illustration.



- Bend the stand in the direction indicated (fig. A).
- Clip the loop into the stand (fig. B).
- It's possible to fix the AM antenna to a wall (fig. C).
 Before fixing, make sure that the reception is satisfactory.
- 2 Pull off the protective shields of both AM antenna wires.
- 3 Press the AM LOOP antenna terminal tabs to open and insert one wire into each terminal.
- 4 Release the tabs to secure the AM antenna wires.
- 5 Place the AM antenna on a flat surface and point in the direction giving the best reception.

Avoid placing near computers, television sets or other electrical appliances and do not let it come into contact with metal objects.



• The signal ground (ઋ) is designed to reduce noise that occurs when an antenna is connected. It is not an electrical safety ground.

FM wire antenna

• Connect the FM wire antenna to the FM UNBAL 75 $\!\Omega$ terminal.

For best results, extend the FM antenna fully and fix to a wall or door frame. Don't drape loosely or leave coiled up.

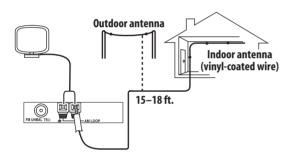
Connecting external antennas

To improve FM reception connect an external FM antenna to the **FM UNBAL 75** Ω .



To improve AM reception, connect a 15–18 ft. length of vinyl-coated wire to the **AM LOOP** terminals without disconnecting the supplied AM loop antenna.

For the best possible reception, suspend horizontally outdoors.



Plugging in the receiver

Only plug in after you have connected all your components to this receiver, including the speakers.



- Handle the power cord by the plug part. Do not pull out the plug by tugging the cord, and never touch the power cord when your hands are wet, as this could cause a short circuit or electric shock. Do not place the unit, a piece of furniture, or other object on the power cord or pinch the cord in any other way. Never make a knot in the cord or tie it with other cables. The power cords should be routed so that they are not likely to be stepped on. A damaged power cord can cause a fire or give you an electric shock. Check the power cord once in a while. If you find it damaged, ask your nearest Pioneer authorized independent service company for a replacement.
- Do not use any power cord other than the one supplied with this unit.
- Do not use the supplied power cord for any purpose other than that described below.

- The receiver should be disconnected by removing the mains plug from the wall socket when not in regular use (for example, when on vacation).
- 1 Plug the supplied power cord into the AC IN socket on the back of the receiver.
- 2 Plug the other end into a power outlet.

About the AC outlet

(Switched 100W max.)

Power supplied through this outlet is turned on and off by the receiver's **& STANDBY/ON** switch. Total electrical power consumption of connected equipment *should not exceed 100 W (0.8 A).*



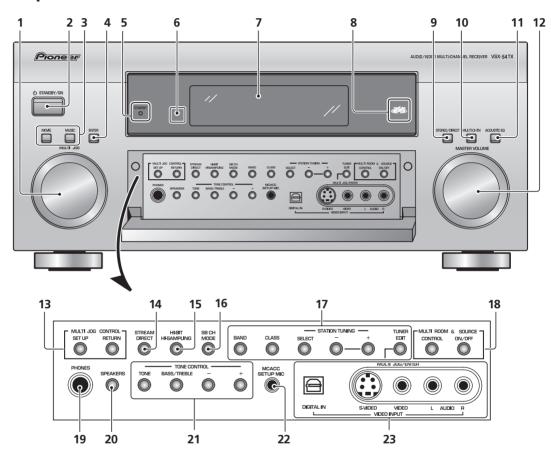
Caution

- Do not connect a TV set, monitor, heater, or similar appliance to this unit's AC outlet.
- Do not connect appliances with high power consumption to the AC outlet in order to avoid overheating and fire risk. This can also cause the receiver to malfunction.
- Since a subwoofer can exceed the 100W maximum when playing sources at a high volume, it is best not to connect a subwoofer to the AC outlet.

Chapter 4

Controls and displays

Front panel



1 MULTI JOG dial

Depending on the operation, you can use this to select an input source or listening mode, as well as for tuner and system settings. It can often be used instead of the remote control 1/4 (cursor up/down) buttons.

2 **U STANDBY/ON**

Press & STANDBY/ON to switch the receiver on or into standby.

3 Surround listening mode buttons (page 37) Use to select the **MOVIE** and **MUSIC** surround listening modes.

4 ENTER

Use to confirm your selection (with the **MULTI JOG** dial).

5 STANDBY indicator

Lights when the receiver is in standby.

6 Remote sensor

Receives the signals from the remote control.

7 Display

See Display on page 34.

8 Advanced MCACC indicator (page 41)

Lights when Acoustic Calibration EQ is on Acoustic Calibration EQ is automatically set to **ALL CH ADJUST** after the Auto Surround Setup has been completed.

9 STEREO/DIRECT (page 40)

Switches the receiver into **STEREO** mode if it was in a different listening mode or toggles between **DIRECT** and **STEREO**.

Controls and displays

10 MULTI CH IN (page 40)

Press to select the component connected to the **MULTI CH IN** terminals (for example, a DVD-Audio player).

11 ACOUSTIC EQ (page 41)

Press to select an acoustic calibration EQ setting.

12 MASTER VOLUME dial

Adjusts the volume.

13 MULTI JOG CONTROL

Use the **SET UP** button to access the System Setup menu, and **RETURN** to exit the current menu screen.

14 STREAM DIRECT (page 37)

Press to switch on/off Direct playback.

15 HI-BIT/HI-SAMPLING (page 43)

Use this to switch the audio scaler on or off.

16 SB CH MODE (page 42)

Use to select the surround/virtual back channel mode.

17 TUNER controls (page 46)

Use the front panel tuner controls for tuning into stations and recalling station presets.

RAND

Press to select the AM or FM band.

CLASS

Press repeatedly to switch the preset station classes.

SELECT

Switches between the station memory and frequency select mode when using the -/+ buttons.

-/+

Selects station memories or frequencies when using the tuner.

TUNER FOIT

Press to memorize and name a station for recall with the **MULTI JOG** dial.

18 MULTI ROOM & SOURCE controls

If you've made multi-room connections (see *Multi-room listening* on page 67) use these controls to control the sub room from the main room (see *Using the multi-room controls* on page 68).

19 PHONES jack (page 40)

Use to connect headphones (no sound will be heard through the speakers).

20 SPEAKERS (page 65)

Depending on the surround back speaker setting (page 50), press either to switch the speaker system or simply to switch it off (See *Switching the speaker system* on page 65 for more on this).

21 TONE CONTROL

TONE

Press to switch the tone controls on or off (bypass).

BASS/TREBLE

Use to select whether the bass or treble will be adjusted.

+/-

Use to adjust the frequency setting.

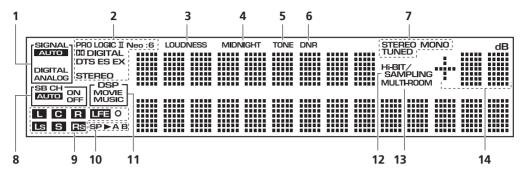
22 MCACC SETUP MIC jack

Use to connect the supplied microphone.

23 VIDEO INPUT jacks (page 22)

- DIGITAL IN Connect a game console, portable DVD player, video camera (etc.), that has an optical digital connection.
- **S-VIDEO** Connect a video camera (etc.), that has an S-video out.
- VIDEO / AUDIO (L/R) Connect a video camera, etc. that has standard RCA video/audio outputs.

Display



1 SIGNAL indicators (page 41)

Light to indicate the currently selected input signal. **AUTO** lights when the receiver is set to select the input signal automatically.

2 Digital format indicators

- **PRO LOGIC II** Lights during Dolby Pro Logic II and Pro Logic IIx processing.
- Neo:6 Lights during Neo:6 processing with 2-channel sources.
- DID DIGITAL Lights when a Dolby Digital signal is detected.
- DTS Lights when a DTS signal is detected.
- ES Lights when a decoding DTS-ES audio.
- EX Lights when a Dolby Digital EX signal is detected.
- STEREO Lights during 2-channel playback.

3 LOUDNESS (page 44)

Lights when Loudness listening is active.

4 MIDNIGHT (page 44)

Lights when Midnight listening is active.

5 TONE (page 44)

Lights when the tone control is switched on.

6 DNR (page 45)

Lights when digital noise reduction is switched on.

7 Tuner indicators

STEREO (page 46)

Lights when listening to a stereo FM broadcast in auto/stereo mode.

MONO (page 46)

Lights when the tuner MPX mode is set to mono.

TUNED

Lights when tuned to a broadcast.

8 SB CH (page 42)

Indicates the surround back channel (or Virtual Surround Back) setting (AUTO, ON or OFF).

9 Program format indicators

These change according to which channels are active in Dolby, DTS and sources.

LS, **S** and **RS** will light at the same time to indicate 6.1 channel sources.

- L Left front channel
- C Center channel
- R Right front channel
- LS Left surround channel
- S Surround channel (mono) or surround back channel
- RS Right surround channel
- LFE Low frequency effects channel
- o Lights when an LFE signal is detected

10 Speaker indicators (page 65)

Lights to indicate the current speaker system, A and/or B.

11 Listening mode indicators (page 37)

Shows **MOVIE** or **MUSIC** when a surround listening mode is selected. **DSP** will light with a box around it when one of the advanced (DSP) listening modes is selected.

12 Hi-BIT/SAMPLING (page 43)

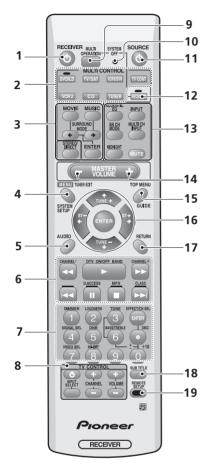
Lights when the audio scalar is switched on.

13 MULTI-ROOM (page 67)

Lights when the multi room feature is active.

14 Volume level indicator

Remote control



1 **ORECEIVER (STANDBY/ON)**

Press to switch the receiver on or into standby.

2 MULTI CONTROL buttons

These buttons are the basic controls that switch the mode of the receiver and the remote control, which allows you to control your other components.

TV CONT

Press so that the remote control can operate the TV control commands.

3 Listening mode buttons (page 37)

MOVIE / MUSIC

Press to select the surround listening mode you want (see *Listening in surround sound* on page 37).

\leftarrow

After selecting a **MOVIE** or **MUSIC** listening mode above, use these to select the options available.

ENTER

Use to confirm your selection.

STEREO/DIRECT (page 40)

Switches the receiver into **STEREO** mode if it was in a different listening mode or toggles between **DIRECT** and **STEREO**.

4 SYSTEM SETUP

Use to display the System Setup menu (page 71). Also used to display a menu when controlling other components (such as a DVD player or TV), or as the **TUNER EDIT** button when using the tuner.

5 AUDIO

Use to switch the audio tracks of a DVD when a DVD player is selected as the input source.

6 Command buttons for other components

Use these buttons to control the component you selected with the **MULTI CONTROL** buttons. They are available once you've programmed the remote to control the appropriate component (for example, your TV or DVD player). See *Controlling other equipment* on page 53 for more on this.

7 Number buttons

The operation of these buttons depends on whether the remote control has been set to the **RECEIVER** or **MULTI CONTROL** setting (see *Controlling other equipment* on page 53 for more on this). When **RECEIVER** is selected, you'll be able to select the following:

DIMMER (page 63)

Use to adjust the brightness of the front panel display.

LOUDNESS (page 44)

Press to switch Loudness on/off.

TONE (page 44)

Press to switch the tone controls on or off (bypass).

BASS/TREBLE (page 44)

Use to select whether the bass or treble will be adjusted.

+/-

Use to adjust the sound delay, the tone, effect and channel levels, as well as to change Dolby Pro Logic II / Dolby Pro Logic IIx Music parameter settings.

EFFECT/CH SEL

Press repeatedly to select a channel, then use -/+ to adjust the level (see *Tip* on page 52). Also selects the **EFFECT** mode, Dolby Pro Logic II / Dolby Pro Logic IIx Music parameters (see page 39) and the sound delay setting (see page 62). You can then use the + and - buttons to make these adjustments.

SIGNAL SEL (page 41)

Press repeatedly to select one of the following:

AUTO

If there are analog and digital signals input, the receiver automatically selects the digital signal.

Controls and displays

DIGITAL

Selects an optical or coaxial digital signal.

ANALOG

Selects an analog signal.

DNR

Press to switch digital noise reduction on/off (see *Reducing noise during playback* on page 45).

VIDEO SEL (page 63)

Press repeatedly to select the video source.

HI-BIT (page 43)

Use this to switch the audio scaler on or off.

8 TV CONTROL buttons

These are dedicated buttons used to control your TV once you've programmed your TV preset code (see *Controlling other equipment* on page 53 for more on this).

TV (

Use it to turn on/off your TV.

INPUT SELECT

Press to select the input source for the TV.

CHANNEL +/-

Use these buttons to change the channel of the TV.

VOLUME +/-

Press to control the volume of the TV.

9 MULTI OPERATION (page 58)

Use this button to perform multi operations.

10 LED display

This display flashes when a command is sent from the remote control to the receiver. It also flashes at other times, for example when teaching the receiver preset codes.

11 SOURCE 🖰

Use this button to turn on/off other components. You must input the component preset code in order to do this (see *Using the remote control with other components* on page 53).

12 RECEIVER

Press this button to access receiver functions or when setting up the receiver.

13 Receiver functions

ACOUSTIC EQ

Press to select an acoustic calibration EQ setting.

INPUT

Press to select an input source. The button will cycle through all the possible input sources.

SB CH MODE (page 42)

Use to select the surround/virtual back channel mode.

MULTI CH INPUT (page 40)

Press to select the component connected to the MULTI CH IN terminals (for example, a DVD-Audio player).

MIDNIGHT (page 44)

Press to switch on/off Midnight listening.

MUTE

Press to mute or restore the volume.

14 MASTER VOLUME

Use to increase or decrease the volume of the receiver.

15 TOP MENU/GUIDE

Use to display the disc 'top menu' when a DVD player is selected as the input source. Also use to find stations or menus on a digital TV tuner.

16 **↑**/**↓**/←/→/ENTER buttons

Use to navigate menus and select options/execute commands.

17 RETURN

When you are setting up the receiver, this button will take you back one step. When another component is selected (such as a DVD player, cable tuner, satellite tuner or digital TV tuner), use it the same way as the components 'Return' button (it may also exit from the menu screen, depending on the maker of the unit).

18 SUB TITLE

Use to switch the subtitles on a DVD player or disc.

19 REMOTE SETUP

Use to customize remote control functions (see *Controlling other equipment* on page 53 for more on this).

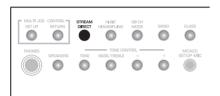
Chapter 5

Listening to your system

Auto playback

• Default setting: On

There are many ways to listen back to sources using this receiver, but for the simplest, most direct listening option is the Stream Direct feature. With this, the receiver automatically detects what kind of source you're playing and selects multichannel or stereo playback as necessary.



• While listening to a source, press STREAM DIRECT on the front panel to switch it on or off.

The decoding or playback format shows briefly in the display before showing **STREAM DIRECT**. Check the digital format indicators in the front panel display to see how the source is being processed.



- Stereo surround (matrix) formats are decoded accordingly using NEO:6 CINEMA or DI Pro Logic IIX MOVIE (see Listening in surround sound below for more on these decoding formats).
- The Stream Direct feature is canceled if you connect headphones or select the multichannel analog inputs.

Listening in surround sound

Using this receiver, you can listen to any source in surround sound. However, the listening mode options and the current active mode may change depending on your speaker setup, the **SB CH** mode setting, and the type of source you're listening to.

 If you connected surround back speakers, see also Using the surround back channel on page 42 for more on the SB CH mode setting. • While listening to a source, press MOVIE or MUSIC and ←/⇒ (cursor left/right) to select a listening mode, then press ENTER.

You can also use the front panel **MUSIC** and **MOVIE** buttons instead of the remote control to select listening modes. After selecting the mode you want, simply turn the **MULTI JOG** dial to cycle through the available options, pressing **ENTER** to select a mode.

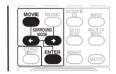




- If the SB CH MODE is switched to OFF, or the surround back speakers are set to NO (this happens automatically if the Surround back speaker setting on page 50 is set to anything but Normal System), DD Pro Logic IIx (below) becomes DD Pro Logic II (5.1 channel sound).
- When the Virtual Surround Back mode (page 43) is switched on, +VSB will show in the front panel display after modes which are using this feature.
- In modes that give 6.1 channel sound, the same signal is heard from both surround back speakers.
- You can't use the MUSIC and MOVIE modes with or sources over 48kHz when using one of the digital inputs.

The MOVIE listening modes

These modes are specifically designed for watching movies. The basic modes provide pure decoding of multichannel sources, and will create surround channels for two channel sources. The advanced effect modes have been created give you different kinds of surround sound environments when listening to any source.



Basic modes

 THX CINEMA – Gives you cinema-quality sound from your home theater system using all the speakers in your setup (for both multichannel and two channel sources)

With multichannel sources (such as DVDs and digital satellite broadcasts), the DD DIGITAL or DTS indicator on the front panel lights depending on the source format. With two channel sources, select from:

- DD Pro Logic IIx MOVIE Up to 7.1 channel sound, especially suited to movie sources
- DE PRO LOGIC 4.1 channel surround sound with sound from the surround speakers in mono
- NEO:6 CINEMA 6.1 channel sound, especially suited to movie sources

With multichannel sources, if you have connected surround back speaker(s) and have selected **SB CH MODE ON**, you can select (according to format):

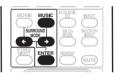
- THX SURROUND EX Allows you to hear 6.1 or 7.1 channel playback with Dolby 5.1 channel sources
- DD Pro Logic IIx MOVIE+THX Up to 7.1 channel sound, especially suited to Dolby multichannel movie sources
- Dolby Digital EX Creates surround back channel sound for 5.1 channel sources and provides pure decoding for 6.1 channel sources (like Dolby Digital Surround EX)
- DD Pro Logic IIx MOVIE See above
- DTS+Neo:6 Allows you to hear 6.1 or 7.1 channel playback with DTS 5.1 encoded sources
- DTS+Neo:6+THX Up to 7.1 channel sound, especially suited to DTS multichannel movie sources
- DTS-ES Allows you to hear 6.1 or 7.1 channel playback with DTS-ES encoded sources
- DTS-ES+THX Up to 7.1 channel sound with DTS-ES encoded sources, especially suited to multichannel movie sources (depending on the disc, DISC 6.1 or MTRX 6.1 may be displayed)

Advanced effect modes

- ACTION Designed for action movies with dynamic soundtracks
- SCI-FI Designed for science fiction with lots of special effects
- **DRAMA** Designed for movies with lots of dialog
- MUSICAL Creates a concert hall-type sound for musicals
- MONOFILM Creates surround sound from mono soundtracks
- 5/7-D THEATER Creates an extra wide stereo field

The MUSIC listening modes

These modes are specifically designed for listening to music. The basic modes provide pure decoding of multichannel sources, and will create surround channels for two channel sources. The advanced effect modes have been created give you different kinds of surround sound environments when listening to any source.



Basic modes

With multichannel sources (such as DVDs and digital satellite broadcasts), the DD DIGITAL or DTS indicator on the front panel lights depending on the source format. With two channel sources, select from:

- DD Pro Logic IIx MUSIC Up to 7.1 channel sound, especially suited to music sources
- NEO:6 MUSIC 6.1 channel sound, especially suited to music sources

With multichannel sources, if you have connected surround back speaker(s) and have selected **SB CH MODE ON**, you can select (according to format):

- Dolby Digital EX Creates surround back channel sound for Dolby 5.1 channel sources and provides pure decoding for 6.1 channel sources (like Dolby Digital Surround EX)
- DD Pro Logic IIx MUSIC See above
- DTS+Neo:6 Creates surround back channel sound for DTS 5.1 channel sources
- DTS-ES Provides pure decoding of DTS-ES encoded sources (depending on the disc, DISC 6.1 or MTRX 6.1 may be displayed)

Advanced effect modes

- CLASSICAL Gives a large concert hall-type sound
- **CHAMBER** Creates a space with a lot of reverb
- JAZZ Creates the sound of a small jazz club

Listening to your system

- ROCK Creates a live concert sound for rock music
- DANCE Designed for music with lots of bass
- 5/7CH STEREO Allows you to hear stereo sources from all the speakers in your setup

Dolby Pro Logic IIx Music settings

When listening to 2-channel sources Dolby Pro Logic IIx Music mode, there are three further parameters you can adjust: Center Width, Dimension, and Panorama.





1 Press RECEIVER.

- 2 With 'DD Pro Logic IIx MUSIC' mode active, press EFFECT/CH SEL repeatedly to select CENTER WIDTH, DIMENSION or PANORAMA.
 - **CENTER WIDTH** Provides a better blend of the front speakers by spreading the center channel between the front right and left speakers, making it sound wider (higher settings) or narrower (lower settings). (This is only available when using a center speaker.)
 - **DIMENSION** Adjusts the depth of the surround sound balance from front to back, making the sound more distant (minus settings), or more forward (positive settings).
 - PANORAMA Extends the front stereo image to include the surround speakers for a 'wraparound' effect.
- 3 Use the +/- buttons to adjust the setting.

Center Width is adjustable between **0** and **7** (default : **3**); Dimension between **-3** and **+3** (default : **0**); Panorama is **ON** or **OFF** (default : **OFF**).

4 Press EFFECT/CH SEL again to adjust other settings.



If the SB CH MODE is switched to OFF, □□ Pro Logic IIx (above) becomes □□ Pro Logic II (5.1 channel sound), however the above setting will still be effective.

 If you set the CENTER WIDTH to 7, all the center channel signal goes to your front speakers, creating a 'phantom' center channel.

Neo:6 Music settings

• Default setting: 2

When listening to 2-channel sources in Neo:6 Music mode, you can adjust the center image to create a wider stereo effect with vocals. Note that this is only available when using a center speaker.

- 1 Press RECEIVER.
- 2 With NEO:6 MUSIC mode active, press EFFECT/CH SEL repeatedly to select CENTER IMAGE.





3 Use the +/- buttons to adjust the setting. Adjust the effect from 0 (no effect) to 5 (most prominence given to the center channel).

Adjusting the advanced effect level

• Default setting: **50** (except **5/7CH STEREO**: **90**)

You can emphasize or reduce the level of the advanced effects as you like. You can set the effect level independently for each mode.





1 Press RECEIVER.

- 2 With one of the advanced effect modes active, press EFFECT/CH SEL repeatedly until EFFECT shows in the front panel display.
- 3 Use the +/- buttons to adjust the effect level. The effect level can be adjusted from 10 (min) to 90 (max).

Listening in stereo

When you select **STEREO** or **DIRECT**, you will hear the source through just the front left and right speakers (and possibly your subwoofer depending on your speaker settings). Dolby Digital and DTS multichannel sources are downmixed to stereo.



While listening to a source, press STEREO/DIRECT for stereo playback.

Press repeatedly to switch between:

- STEREO The audio is heard with your surround settings (such as channel level) and you can still use digital processing (such as the Midnight, Loudness, and Tone control functions).
- DIRECT Bypass all effects and surround settings so that the audio remains as close to the source audio signal as possible.



 If you switch on any signal processing features (for example, digital noise reduction or the tone controls) when **DIRECT** is selected, the receiver automatically switches to **STEREO**.

Listening with headphones

When headphones are connected, all multichannel sources, as well as all of the **MOVIE** and **MUSIC** modes with be downmixed to 2 channels. Two channel sources will be heard in stereo.

Connect a pair of headphones to the PHONES jack on the front panel.

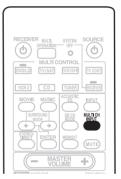
All sources will be heard in stereo (downmixed). When you disconnect them it reverts to the previous mode.



- Many receiver features (such as matrix decoding) are not accessible when the headphones are connected.
- When headphones are connected, no sound is heard from the speakers. However, sound will still be output from the preouts.
- You can only hear the front left and right channels when **MULTI CH IN** is switched on.

Using the multichannel analog inputs

If you've connected to the multichannel inputs on the rear panel (see *Connecting the multichannel analog outputs* on page 20), you will be able to select them as your input source.



1 Make sure you have set the playback source to the proper output setting.

For example, you might need to set your DVD player to output multichannel analog audio.

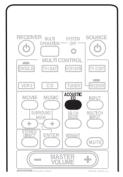
- 2 Press MULTI CH INPUT (MULTI CH IN on the front panel) to select the multichannel analog inputs. MULTI CH IN shows in the display to indicate the audio is coming from the multichannel analog inputs, regardless of the input source selected. The input source remains dedicated to the multichannel inputs until you press MULTI CH IN/MULTI CH INPUT again to cancel.
 - If you need to set the channel levels, see *Channel Level* on page 51 to do so.



- You can't use any signal processing features (for example, the MOVIE or MUSIC modes or the tone controls) with the multichannel analog inputs.
- Speakers set to NO in the Speaker Setting on page 50 do not output the audio for the corresponding channel.
- You can't use the Second Zone speaker B setup (page 65) with the multichannel analog inputs.

Listening with Acoustic Calibration EQ

You can listen to sources using the Acoustic Calibration Equalization set in *Automatically setting up for surround sound* on page 12 or *Acoustic Calibration EQ* on page 77. Refer to these pages for more on acoustic calibration equalization.



- While listening to a source, press ACOUSTIC EQ. Press repeatedly to select between:
 - ALL CH ADJUST No special weighting is given to any one channel.
 - FRONT ALIGN All speakers are heard in accordance with the front speaker settings.
 - CUSTOM 1/2 Custom settings
 - OFF Switches Acoustic Calibration EQ off.

The MCACC indicator on the front panel lights when Acoustic Calibration EQ is active.



- You can't use Acoustic Calibration EQ when MULTI CH IN is switched on.
- If you switch on Acoustic Calibration EQ when DIRECT is selected, the receiver automatically switches to STEREO.

Selecting the input signal type

Most of the audio inputs have both analog and digital jacks. You can select the type of signal to be used in each case.

The input signal type for the current input is indicated in the display. With digital signals, the signal type (Dolby Digital or DTS) also shows in the display.

The default **AUTO** setting is usually sufficient, letting the receiver decide the most suitable signal type. However, in other cases (for example, if you want to record the analog output of a digital source) then you should set the input signal type to analog.





- 1 Press RECEIVER.
- 2 Press SIGNAL SEL to select the type of input signal for the current source.

Press repeatedly to choose between:

- AUTO The receiver selects the first available signal in the following order: DIGITAL; ANALOG.
- ANALOG Selects an analog signal.
- **DIGITAL** Selects an optical or coaxial digital signal.



- If no digital inputs are assigned for the current source, the input signal type is fixed to ANALOG.
- When using **DIGITAL IN** terminals the following digital signal formats are supported: Dolby Digital, DTS and PCM (32, 44.1, 48, 88.2 and 96 kHz sampling frequencies).
- Some DVD players don't output DTS signals. For more details, refer to the instruction manual supplied with your DVD player.
- The audio signal from karaoke microphones and some LDs is not output from the digital outputs.
 Select ANALOG to listen to these formats.
- If you want to play DTS-encoded sources, you need to have digital connections. If ANALOG is selected, you'll hear digital noise through your speakers.

Using the surround back channel

• Default setting: SB CH ON

You can have the receiver automatically use 6.1 or 7.1 decoding for 6.1 encoded sources (for example, Dolby Digital EX or DTS-ES), or you can choose to always use 6.1 or 7.1 decoding with other sources (for example, 5.1 encoded material). With 5.1 encoded sources, a surround back channel will be generated, but the material may sound better in the 5.1 format for which it was originally encoded, in which case you can simply switch the surround back channel off. The table below indicates when you will hear the surround back channel when playing various kinds of sources. ●=Sound plays through surround back channel speaker(s)





• Press SB CH MODE repeatedly to cycle through the surround back channel options.

Each press changes the setting as follows (see the table above for an explanation of each):

- **SB CH ON** 6.1 or 7.1 encoding is always used (for example, on 5.1 encoded material)
- SB CH AUTO Automatically switches to 6.1 or 7.1 decoding for 6.1 encoded sources (for example, Dolby Digital EX or DTS-ES)
- SB CH OFF Surround back channel is switched off



- You will only hear the surround back channel when you've selected **Normal Surround** in the *Surround back speaker setting* on page 50. Changing the speaker system may automatically change this setting (see notes below).
- If the surround back speaker is set to NO in Speaker Setting on page 50, or you have selected a Second Zone speaker B setup, you can only use the virtual surround back effect (see next page).
- You can't use the surround back channel setting with MULTI CH IN or STEREO/DIRECT.
- You can't use the surround back channel featune with or sources over 48kHz when using one of the digital inputs.

Type of source	SB CH mode	Surround modes (Basic)				
		Multichannel sources	Stereo sources		Advanced effects	
			DI Pro Logic II x	DC Pro Logic	NEO:6	. circus
Dolby Digital EX/DTS-ES encoded multichannel source with 6.1ch	ON	•	•			•
surround	AUTO	•				•
Dolby Digital/DTS encoded multichannel source	ON	•				•
muticilariner source	AUTO					•
Dolby Digital/DTS encoded stereo source; other digital stereo source	ON		•		•	•
source, other digital stereo source	AUTO		•		•	•
Analog 2-channel (stereo) source	ON		•		•	•
	AUTO		•		•	•

Listening with virtual surround back speakers

• Default setting: VIRTL SB OFF

If you don't have real surround back speakers connected, you can use the Virtual Surround Back feature to simulate one.

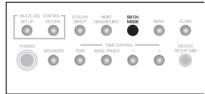
Sometimes the material may sound better in the 5.1 format for which it was originally encoded. In this case you can have the receiver only apply this effect to 6.1 encoded sources like Dolby Digital EX or DTS-ES (VIRTL SB AUTO), or you can simply switch it off (VIRTL SB OFF). For stereo sources, you'll have to select one of the NEO:6 modes or an advanced effect mode (see *Listening in surround sound* on page 37) to use the Virtual Surround Back feature.

Note that this feature only works when the surround channels are active and the surround back speaker is set to **NO** in *Speaker Setting* on page 50.

See also Using the surround back channel above.

• Press SB CH MODE repeatedly to cycle through the virtual surround back channel options.





Each press cycles through the options as follows:

- VIRTL SB ON Virtual Surround Back is used for all sources
- VIRTL SB AUTO Automatically applied to 6.1 encoded sources (for example, Dolby Digital EX or DTS-ES)
- VIRTL SB OFF Virtual Surround back is switched off

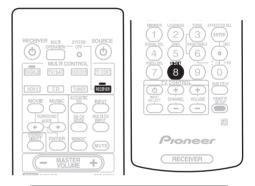


- You can't use the Virtual Surround Back setting with THX CINEMA, PRO LOGIC II, PRO LOGIC IIx, MULTI CH IN or STEREO/DIRECT.
- You can't use the Virtual Surround Back feature with or sources over 48kHz when using one of the digital inputs.
- When using the Virtual Surround Back feature with the surround modes, **+VSB** shows in the display.

Using the audio scaler for Hi-bit and Hi-sampling

· Default setting: Off

You can use the audio scaler to create a wider dynamic range with digital sources like CDs or DVDs.





- 1 If you're using the remote, press RECEIVER.
- 2 Press HI-BIT (HI-BIT/HI-SAMPLING on the front panel).



- You can't use the audio scaler with **MULTI CH IN**.
- You can't use the audio scaler with sources over 48kHz when using one of the digital inputs.
- If you switch on the audio scaler when **DIRECT** is selected, the receiver automatically switches to **STEREO**.

Using Midnight and Loudness listening

· Default setting: Off

The Midnight listening feature makes quieter sounds more audible, allowing you to hear effective surround sound at low volume levels.

The Loudness feature boosts the bass and treble in audio sources, useful for listening at low volumes.





1 Press RECEIVER.

This step is only necessary if you want to use Loudness.

2 Press MIDNIGHT or LOUDNESS to switch the effect on or off.

The mode you've selected lights in the display.

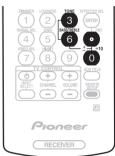


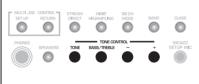
- You can't use the Midnight and Loudness modes at the same time.
- You can't use these modes with THX CINEMA, or MULTI CH IN.
- These modes automatically adjust according to the volume at which you're listening. However, the volume must be under -20dB for these features to take effect.
- You can't use these modes with sources over 96kHz when using one of the digital inputs.
- If you switch on either of these modes when **DIRECT** is selected, the receiver automatically switches to **STEREO**.

Using the tone control

You can use the tone control to make customized settings for the bass and treble.







Switching the tone control on or off

· Default setting: Off

You'll need to switch the tone control on to adjust the bass and treble below.

- 1 If you're using the remote, press RECEIVER.
- 2 Press TONE to switch the tone control on or off. TONE shows in the display when the tone control is switched on.

Adjusting the bass and treble

• Default setting: Bass: 0, Treble: 0

You can adjust the bass and treble controls separately to adjust the overall tone.

1 Press BASS/TREBLE repeatedly to select BASS or TREBLE.

If you see **TONE:BYPASS** in the display, the tone control needs to be switched on (see above).

2 Use the +/- buttons to adjust the sound.

The bass and treble can be adjusted from -6 to +6.



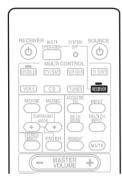
- You can't use the tone control with THX CINEMA or MULTI CH IN.
- You can't use the tone control with sources over 96kHz when using one of the digital inputs.

 If you switch on the tone control when **DIRECT** is selected, the receiver automatically switches to **STEREO**.

Reducing noise during playback

· Default setting: Off

If you have a noisy source (for example, cassette or video tape with lots of background noise), you may be able to improve the quality of the sound by switching on digital noise reduction (**DNR**).





1 Press RECEIVER.

2 Press the DNR button to switch digital noise reduction on or off.

DNR shows in the display when digital noise reduction is switched on.

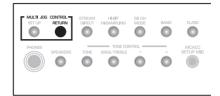


- Depending on the source, there may not be a noticeable improvement in the quality of the sound.
- You can't use digital noise reduction with THX CINEMA or MULTI CH IN.
- You can't use digital noise reduction with sources over 48kHz when using one of the digital inputs.
- If you switch on digital noise reduction when **DIRECT** is selected, the receiver automatically switches to **STEREO**.

Listening to dual mono soundtracks

• Default setting: DUAL ch1

You can specify how dual mono encoded Dolby Digital soundtracks should be played. Dual mono is not widely used, but is sometimes necessary when two languages need to be sent to separate channels.



1 Press and hold the RETURN button for more than three seconds to select a DUAL MONO setting.

You will see the following settings cycle in the display:

- DUAL ch1 Only channel 1 is played
- DUAL ch2 Only channel 2 is played
- **DUAL ch1/ch2** Both channels are played through the front speakers
- 2 Release the button when you see the setting you want.

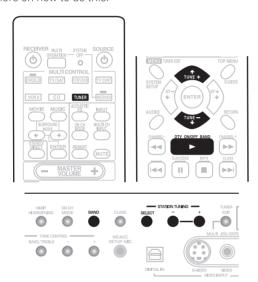


• This setting works only with dual mono encoded Dolby Digital soundtracks.

Chapter 6 Using the tuner

Finding a station

The following steps show you how to tune in to FM and AM radio broadcasts using the automatic (search) and manual (step) tuning functions. If you already know the exact frequency of the station you want to listen to, see *Tuning directly to a station* below. Once you are tuned to a station you can memorize the frequency for recall later—see *Memorizing station presets* on page 47 for more on how to do this.



1 Press TUNER, then press BAND to change the band (FM or AM), if necessary.

Each press switches the band between FM and AM.

- You can also use the front panel MULTI JOG dial to select the tuner.
- **2** Tune to a station using the TUNE +/- buttons. On the front panel, press **SELECT** first to switch to the frequency select mode for **(STATION) TUNING +/-.**

Automatic tuning

To search for stations in the currently selected band, press and hold either of the **TUNE +/-** buttons for about a second. The receiver will start searching for the next station, stopping when it has found one. Repeat this step to search for other stations.

Manual tuning

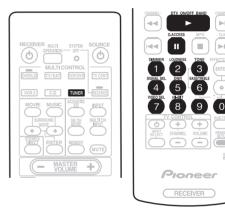
To change the frequency one step at a time, press the **TUNE +/-** buttons repeatedly.

High speed tuning

Press and hold the **TUNE +/-** buttons for high speed tuning, releasing the button once you reach the frequency you want.

Tuning directly to a station

Sometimes, you'll already know the frequency of the station you want to listen to. In this case, you can simply enter the frequency directly using the number buttons on the remote control.



1 Press TUNER, then press BAND to change the band (FM or AM), if necessary.

Each press switches the band between FM and AM.

- 2 Press DIRECT ACCESS.
- 3 Use the number buttons to enter the frequency of the radio station.

For example, to tune to 106.00 (FM), press 1, 0, 6, 0, 0.



 If you make a mistake while inputting the frequency, press the DIRECT ACCESS button again to cancel the frequency and start again.

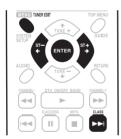
MPX mode

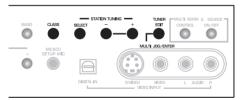
If there is interference or noise during a stereo FM radio broadcast (the **STEREO** indicator is lit), or the radio reception is weak, press **MPX** on the remote to switch the receiver into mono reception mode (the **MONO** indicator lights). This should improve the sound quality and allow you to enjoy the broadcast.



Memorizing station presets

If you often listen to a particular radio station, it's convenient to have the receiver store the frequency for easy recall whenever you want to listen to that station. This saves the effort of manually tuning in each time. The receiver can memorize up to 30 stations, stored in three banks, or classes, (A, B and C) of 10 stations each. When memorizing FM frequencies, the receiver also stores the MPX setting (see *MPX mode* above).





1 Tune to a station you want to memorize. See *Finding a station* above and *Tuning directly to a station* above for more details on how to do this.

2 Press TUNER EDIT.

The display shows **MEMORY INPUT** then a blinking memory class (**A**, **B** or **C**).

3 Press CLASS to select one of the three classes. Press repeatedly to cycle through the three memory classes, **A**, **B** and **C**.

4 Use the ST +/- buttons to select the station preset you want.

On the front panel, press **SELECT** first to switch to the frequency select mode for (**STATION**) **TUNING** +/-.

- You can also use the front panel MULTI JOG dial or the number buttons on the remote control to select the station preset.
- 5 While the display is blinking, press ENTER.
- 6 Repeat steps 1 5 to memorize up to 30 stations.

Listening to memorized station presets

You can do this from both the remote control and the front panel.

1 Press CLASS to select the class in which the station is stored.

Press repeatedly to cycle through the three memory classes, **A**, **B** and **C**.

2 Use the ST +/- buttons to select the station memory in which the station is stored.

On the front panel, press **SELECT** first to switch to the frequency select mode for (**STATION**) **TUNING** +/-.

• You can also use the number buttons on the remote control to recall the station preset.

Naming station presets

You can input a name of up to four characters for each preset station in the receiver's memory. For example, you could input **Jazz** for that station and when you listen to it the name, rather than the frequency, will appear in the front panel display.



1 Press CLASS repeatedly to select the class.

Press repeatedly to cycle through the three memory classes, **A**, **B** and **C**.

2 Use the ST +/- buttons to select an FM or AM preset station.

On the front panel, press **SELECT** first to switch to the frequency select mode for (**STATION**) **TUNING** +/-.

3 Press TUNER EDIT to select the station name mode.

4 Edit the name as necessary and press ENTER.

Use the ←/→ (cursor left/right) buttons or the front panel **MULTI JOG** dial to change the character and **ENTER** to confirm (or to add a space if no character is input). The name can be up to four characters (the possible characters are listed below).

ABCDEFGHIJKLMNOPQRSTUVWXYZ abcdefghijklmnopqrstuvwxyz 0123456789

!"#\$%&'()*+,-./:;<=>?@[\]^_{|} (space)

To exit the process at any time, press **TUNER EDIT**.

5 Repeat steps 1 – 4 to memorize up to 30 preset broadcast station names.



- To change a station name, just enter the new name over the top of the old one. To erase a station name, enter a new name of four spaces.
- You can switch between the frequency display and the station name display using the remote control SUB TITLE button.



Chapter 7

The Surround Setup menu

Making receiver settings from the Surround Setup menu

This receiver allows you to make detailed settings to optimize the surround sound performance. You only need to make these settings once (unless you change the placement of your current speaker system or add new speakers.).

These settings are designed to fine-tune your system, but if you're satisfied with the settings made in *Automatically* setting up for surround sound on page 12, it isn't necessary to make all of these settings.

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Important

- For some of the settings below, you'll have to connect
 the setup microphone to the front panel and place it
 about ear level at your normal listening position. See
 Automatically setting up for surround sound on
 page 12 if you're unsure how to do this. Also see
 Other problems when using the Auto Surround Setup
 on page 14 for notes regarding high background
 noise levels and other possible interference.
- If you're using a subwoofer, switch it on and turn up the volume to the middle position.
- After three minutes of inactivity during the Auto setup options, the OSD will go to sleep until a button is pressed. With other screens, the receiver automatically exits and no settings will be made.



- The test tones used in the Surround Setup are output at high volume (the volume increases to 0db automatically).
- **1 Switch on the receiver and your TV.** Use the \circlearrowleft **RECEIVER** button to switch on.
 - If headphones are connected to the receiver, disconnect them.

2 Using the remote control, press RECEIVER, then press the SYSTEM SETUP button.

An on-screen display (OSD) appears on your TV. Use the †/↓ (cursor up/down) buttons and ENTER on the remote control to navigate through the screens and select menu items.



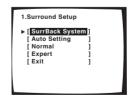




- You can also use the front panel display to make settings. You can also use the MULTI JOG dial and ENTER on the front panel instead of the 1/4 (cursor up/down) buttons and ENTER on the remote control.
- 3 Select 'Surround Setup' then press ENTER.



4 Select the setting you want to adjust.



- SurrBack System Specify how you are using your surround back speakers (see Surround back speaker setting below).
- Auto Setting This is a quick and easy automatic surround setup (see Automatically setting up for surround sound on page 12).

- Normal Specify the size, number, distance and overall balance of the speakers you've connected (see Normal surround setting below).
- Expert Use this menu to fine tune your surround setup (see The Expert setup menu on page 75).
- Make the adjustments necessary for each setting, pressing ENTER to confirm after each settina.

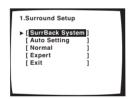
Surround back speaker setting

Default setting: Normal

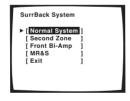
There are several ways you can use the surround back speaker channels with this system. In addition to a normal home theater setup where they are used for the surround back speakers, they can be used for bi-amping the front speakers or as an independent speaker system. in another room.

Select 'SurrBack System' from the Surround Setup menu.

See Making receiver settings from the Surround Setup menu above if you're not already at this screen.



2 Select the surround back speaker setting.



- Normal System Select for normal home theater use with surround back speakers in your main (speaker system A) setup.
- Second Zone Select to use the (surround back) B speaker terminals to listen to stereo playback in another room (see Second Zone speaker B setup on
- Front Bi-Amp Select this setting if you're biamping your front speakers (see Bi-amping your front speakers on page 66).
- MR&S Select to use the (surround back) B speaker terminals for an independent system in another room (see Multi-room listening on page 67).

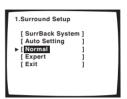
3 When you're finished, select 'Exit'.

You will return to the Surround Setup menu.

Normal surround setting

If you aren't satisfied with the results the Auto Setup (Automatically setting up for surround sound on page 12). you can use these settings to adjust speaker parameters manually. Note that these settings overwrite the settings made with the Auto Setup.

Select 'Normal' from the Surround Setup menu. See Making receiver settings from the Surround Setup menu above if you're not already at this screen.



Speaker Setting

 Default setting: SMALL (all speakers) / Subwoofer - YES

Use this setting to specify your speaker configuration (size, number of speakers). You can make sure that the settings made in Automatically setting up for surround sound on page 12 are correct.

1 Choose 'Speaker Setting' from the Normal setup menu



2 Choose the set of speakers that you want to set then select a speaker size.



Use **↑/**↓ (cursor up/down) to select the size (and number) of each of the following speakers:

• Front – Select LARGE if your front speakers reproduce bass frequencies effectively, or if you didn't connect a subwoofer. Select SMALL to send the bass frequencies to the subwoofer.

The Surround Setup menu

- Center Select LARGE if your center speaker reproduces bass frequencies effectively, or select SMALL to send bass frequencies to the other speakers or subwoofer. If you didn't connect a center speaker, choose NO (the center channel is sent to the front speakers).
- Surround Select LARGE if your surround speakers reproduce bass frequencies effectively. Select SMALL to send bass frequencies to the other speakers or subwoofer. If you didn't connect surround speakers choose NO (the sound of the surround channels is sent to the front speakers or a subwoofer).
- SurrBack Select the number of surround back speakers you have (one, two or none). Select LARGE if your surround back speakers reproduce bass frequencies effectively. Select SMALL to send bass frequencies to the other speakers or subwoofer. If you didn't connect surround back speakers choose NO.
- Subwoofer LFE signals and bass frequencies of channels set to SMALL are output from the subwoofer when YES is selected (see notes below). Choose the PLUS setting if you want the subwoofer to output bass sound continuously or you want deeper bass (the bass frequencies that would normally come out the front and center speakers are also routed to the subwoofer). If you did not connect a subwoofer choose NO (the bass frequencies are output from other speakers).

Note

- If you selected Second Zone, Front Bi-Amp, or MR&S in Surround back speaker setting above you can't adjust the surround back settings.
- If you select SMALL for the front speakers the subwoofer will automatically be fixed to YES. Also, the center and surround speakers can't be set to LARGE if the front speakers are set to SMALL. In this case, all bass frequencies are sent to the subwoofer.
- If the surround speakers are set to NO, the surround back speakers will automatically be set to NO.
- If you select one surround back speaker only, make sure that speaker is hooked up to the left surround back terminal.
- If you're using a THX speaker setup, we recommend setting all speakers to SMALL.

3 When you're finished, select 'Exit'.

You will return to the Normal setup menu.



Tip

• If you have a subwoofer and like lots of bass, it may seem logical to select LARGE for your front speakers and PLUS for the subwoofer. This may not, however, yield the best bass results. Depending on the speaker placement of your room you may actually experience a decrease in the amount of bass due to low frequency cancellations. In this case, try changing the position or direction of speakers. If you can't get good results, listen to the bass response with it set to PLUS and YES or the front speakers set to LARGE and SMALL alternatively and let your ears judge which sounds best. If you're having problems, the easiest option is to route all the bass sounds to the subwoofer by selecting SMALL for the front speakers.

Channel Level

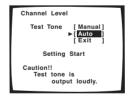
• Default setting: **0dB** (all speakers)

Using the channel level setting, you can adjust the overall balance of your speaker system, an important factor when setting up a home theater system.

1 Select 'Channel Level' from the Normal setup menu.



2 Select a setup option and press ENTER to start the test tones.

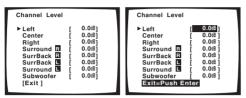


- Manual Move the test tone manually from speaker to speaker and adjust individual channel levels.
- Auto Adjust channel levels as the test tone moves from speaker to speaker automatically.

The Surround Setup menu

3 Adjust the level of each channel using the ↑/↓ (cursor up/down) buttons.

If you selected **Manual**, use **1/4** (cursor up/down) and **ENTER** to select speakers. The **Auto** setup will output test tones in the order shown on-screen:



Manual setup

Auto setun

Adjust the level (+/-10dB) of each speaker as the test tone is emitted.

Note

- If you are using a Sound Pressure Level (SPL) meter, take the readings from your main listening position and adjust the level of each speaker to 75 dB SPL (Cweighting/slow reading).
- The subwoofer test tone is output at low volumes. You may need to adjust the level after testing with an actual soundtrack.

4 If you selected 'Manual', select 'Exit' to finish. With 'Auto', simply press ENTER.



You will return to the Normal setup menu.



 You can change the channel levels at any time by pressing RECEIVER then EFFECT/CH SEL (to select the channel you want to adjust) on the remote. Use the +/- buttons to increase/decrease the level.



Speaker Distance

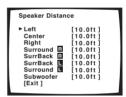
• Default setting: 10.0 ft (all speakers)

For good sound depth and separation from your system, you need to specify the distance of your speakers from the listening position. The receiver can then add the proper delay needed for effective surround sound.

1 Select 'Speaker Distance' from the Normal setup menu.



2 Specify the distance of each speaker from the listening position.



Adjust the distance of each speaker within the range of 0.5–45 feet.

3 When you're finished, select 'Exit'.

You will return to the Normal setup menu.



• For best surround sound, make sure the surround back speakers are the same distance.

Chapter 8

Controlling other equipment

Using the remote control with other components

The supplied remote control can operate not only this receiver, but also your TV, DVDplayer and other components. If the component is listed in the remote control's memory, you can simply follow the steps in *Recalling preset codes* below. If the component is not listed, or if you want the remote to learn additional operations, see *Programming signals from other remote controls* on page 54.

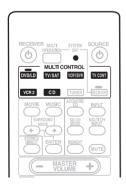
See *Preset code brands* on page 92 for a list of brands available for each component.



- TV codes (for example, codes for TV, CATV, Satellite TV or DTV) can only be assigned to the TV/SAT or TV CONT button.
- You can cancel or exit any of the following steps by pressing REMOTE SETUP.
- The default preset setting for all functions is a corresponding Pioneer component. Note that where two buttons are listed, the first component is the the default (for example, **DVD/LD** is a Pioneer DVD player).

Recalling preset codes

The following steps how you how to recall preset codes for each input source. Use the remote control to do this.





- 1 Make sure the component you want to control is switched on.
- 2 While holding down the REMOTE SETUP button press 1 to select the preset recall setup mode. The LED begins to blink.

3 Press the MULTI CONTROL button that matches the connection for the component you want to control.

For example, press **DVD/LD** if you want to control the DVD player that you connected to the **DVD/LD** terminals.

The LED lights continuously.

- Choosing a button that's already assigned will overwrite the old preset (and any other operations you may have programmed).
- You can't assign the **RECEIVER** or **TUNER** buttons.
- 4 Point the remote at the component you want to control and enter the 4 digit setup code (see *Preset code brands on page 92*).

The LED blinks.

After a code has been input the component switches on or off (into standby).

The remote control will return to the previous mode after thirty seconds of inactivity.

The component you are trying to control will only be switched on or off (into standby) if that component is able to be switched on directly by remote control.

If you can't properly enter a preset code, you can still teach the remote individual commands from another remote control (see *Programming signals from other remote controls* below).

- 5 Repeat steps 3 through 4 for any other components you want to control.
- 6 When you're finished, press the REMOTE SETUP button to exit.

Programming signals from other remote controls

If the preset code for your component is not available, or the available preset codes do not operate correctly, you can program signals from the remote control of another component. This can also be used to program additional operations (buttons not covered in the presets) after assigning a preset code in *Recalling preset codes* on page 53.





1 While holding down the REMOTE SETUP button press 2 to select the learning setup mode.

The LED begins to blink.

2 Press the MULTI CONTROL button that matches the connection for the component you want to control.

For example, press **DVD/LD** if you want to control the DVD player that you connected to the **DVD/LD** terminals.

The LED lights continuously.

- You can't assign the **RECEIVER** or **TUNER** buttons.
- 3 Select the button corresponding to the command you want to teach the remote control.

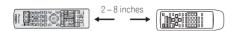
For example, press ► if you want to program the play command from your DVD player remote control.

The LED blinks rapidly.

- When programming TV CONT, you can only select one of the TV CONTROL buttons.
- 4 Point the two remote controls towards each other then press the corresponding button on the other remote control that is sending (teaching) the signal to this receiver's remote control.

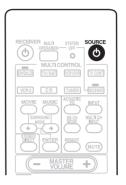
For example, if you want to learn the playback control signal, press ►.

• The remote controls should be 2-8 inches apart.



The LED will turn off and then light again.

Certain buttons represent operations that cannot be learned from other remote controls. The buttons available are shown below:





5 Repeat steps 3 and 4 to program additional signals for the current component.

To program signals for another component, repeat steps 2 through 4.

6 When you're finished, press the REMOTE SETUP button to exit

Controls for TVs

This remote control can control components after entering the proper codes or teaching the receiver the commands (see *Using the remote control with other components* on page 53 for more on this). Use the **MULTI CONTROL** buttons to select the component.

Button(s)	Function	Components		
TVŮ	Switches the TV, Satellite TV, or CATV between standby and on.	Cable TV/Satellite TV/TV		
INPUT SELECT	Switches the TV input. (Not possible with all models.)	TV		
TV CHANNEL +/-	Selects channels.	Cable TV/Satellite TV/TV		
TV VOLUME +/-	Adjusts the TV volume.	TV		
44	Use to move back channels.	Cable TV/Satellite TV/TV/DTV		
>>	Use to move forward channels.	Cable TV/Satellite TV/TV/DTV		
144	Use to choose the BLUE commands on a DTV menu.	Satellite TV/DTV		
	Use to move back a page in the menu.	Cable TV		
▶ ▶I	Use to choose the YELLOW commands on a DTV menu.	Satellite TV/DTV		
	Use to move forward a page in the menu.	Cable TV		
П	Use to choose the GREEN commands on a DTV menu.	Satellite TV/DTV		
	Use to choose the RED commands on a DTV menu.	Satellite TV/DTV		
>	Switches the DTV on or off.	Satellite TV/DTV		
GUIDE	Use as the GUIDE button for navigating.	Cable TV/Satellite TV/TV/DTV		
RETURN	Exits the menu.	Cable TV/Satellite TV/DTV		
Number buttons	Use to select a specific TV channel.	Cable TV/Satellite TV/TV/DTV		
ENTER/ DISC	Use to enter a channel.	Cable TV/TV/DTV		
MENU	Selects the menu.	Cable TV/Satellite TV/TV/DTV		
←→↑↓ & ENTER	Press to select or adjust and navigate items on the menu screen.	Cable TV/Satellite TV/TV/DTV		



- The **TV CONTROL** buttons on the remote control are dedicated to control the TV assigned to the **TV CONT** button. Thus if you only have one TV to hook up to this system assign it to the **TV CONT MULTI CONTROL** button. If you have two TVs, assign the main TV to the **TV CONT** button.
- Depending on the maker and individual model, there are some buttons that may not be able to operate some equipment or may operate it in a different way.

Controls for other components

This remote control can control these components after entering the proper codes or teaching the receiver the commands (see *Using the remote control with other components* on page 53 for more on this). Use the **MULTI CONTROL** buttons to select the component.

Button (s)	Function	Components	
SOURCE ්	Press to switch the component between standby and on.	CD/MD/CD-R/VCR/DVD/LD/DVD recorder/Cassette deck	
 	Press to return to the start of the current track. Repeat presses skips to the start of previous tracks.	CD/MD/CD-R/DVD/LD	
	Go back channels (channel -).	VCR/DVD recorder	
	Plays the reverse side of the tape on a reversible deck.	Cassette deck	
▶▶ I	Press to advance to the start of the next track. Repeated presses skips to the start of following tracks.	CD/MD/CD-R/DVD/LD	
	Go forward channels (channel +)	VCR/DVD recorder	
11	Pauses playback or recording.	CD/MD/CD-R/VCR/DVD/LD/DVD recorder/Cassette deck	
>	Starts playback.	CD/MD/CD-R/VCR/DVD/LD/DVD recorder/Cassette deck	
>>	Hold down for fast forward playback	CD/MD/CD-R/VCR/DVD/LD/DVD recorder/Cassette deck	
44	Hold down for fast reverse playback.	CD/MD/CD-R/VCR/DVD/LD/DVD recorder/Cassette deck	
•	Stops playback (on some models, pressing this when the disc is already stopped will cause the disc tray to open).	CD/MD/CD-R/VCR/DVD/LD/DVD recorder/Cassette deck	
SUB TITLE	Displays/changes the subtitles on multilingual DVDs.	DVD/DVD recorder	
_	Directly access tracks on a program source.	CD/MD/CD-R/LD	
Number buttons	Directly access chapter on a program source.	DVD/DVD recorder	
	Directly select a channel.	VCR/DVD recorder	
+10	Selects tracks or chapters higher than 10. (For example, press +10 then 3 to select track 13.) Some components may operate differently.	CD/MD/CD-R/DVD/LD/DVD recorder	
	Chooses the disc.	CD	
	Press to enter the selected channel.	VCR	
ENTER/ DISC	Press to start Search mode.	DVD	
	Takes you to the disk navigator.	DVD recorder	
	Changes sides of the LD.	LD	
MENU	Displays menus concerning the current DVD, DVR or VCR you are using.	VCR/DVD/DVD recorder	
AUDIO	Changes the audio track of discs with more than one audio track.	DVD/LD/DVD recorder	
	Changes between the tuner in TV and the tuner in the VCR.	VCR	
	Plays the reverse side of the tape on a reversible deck.	Double cassette 2nd deck	

Button (s)	Function	Components
TOP MENU/ GUIDE	Displays the top menu of the current DVD, LD or DVR you are using.	DVD/LD/DVD recorder
	Takes you to the guide menu of the system.	VCR
	Press to select a track.	CD
RETURN	Takes you to the previous menu.	VCR/DVD/LD/DVD recorder
←→↑↓& ENTER	Navigates menu/options.	VCR/DVD/LD/DVD recorder
	Basic playback options.	Double cassette 2nd deck



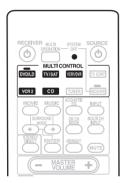
- Depending on the maker and individual model, there are some buttons that may not be able operate some equipment or may operate it in a different way.
- The default preset setting for all functions is a corresponding Pioneer component. Note that where two buttons are listed, the first component is the the default (for example, **DVD/LD** is a Pioneer DVD player).

Direct function

• Default setting: On (all components)

You can use the direct function feature to control one component using the remote control while at the same time, using your receiver to playback a different component. This could let you, for example, use the remote control to set up and listen to a CD on the receiver and then use the remote control to rewind a tape in your VCR while you continue to listen to your CD player.

When direct function is on, any component you select (using the **MULTI CONTROL** buttons) will be selected by both the receiver and the remote control. When you turn direct function off, you can operate the remote control without affecting the receiver.





- 1 While holding down the REMOTE SETUP button press 4 to select the direct function setup mode. The LED begins to blink.
- 2 Press the MULTI CONTROL button for the component you want to set.

The LED lights continuously.

3 Set the direct function of each external source to off by pressing 2, on by pressing 1.

The LED blinks.

- 4 Repeat steps 2–3 for as many components as you want.
- 5 When you're finished, press the REMOTE SETUP button to exit.



 You can't use direct function with the RECEIVER, TUNER or TV CONT functions.

Multi Operation and System off

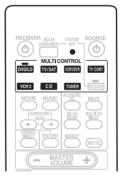
The Multi Operation feature allows you to program a series of commands for the components in your system. For example, you could turn on your TV, turn on your DVD player and start playing the loaded DVD using only two buttons on the remote control.

Similar to multi operations, System Off allows you to use one button to stop and switch off a series of components in your system at the same time.



- Before Multi Operation and System Off will work correctly, you must setup the remote to work with your TV and other components (see *Recalling preset codes* on page 53 and *Programming signals from other remote controls* on page 54 for more on this).
- Power on and off commands only work with components that have a standby mode.

Programming a multi-operation



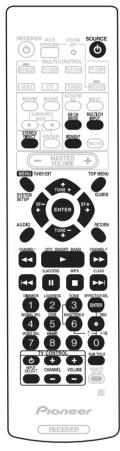


- 1 While holding down the REMOTE SETUP button press 3 to select the multi operation setup mode. The LED begins to blink.
- 2 Press the MULTI CONTROL button for the component you want to start the multi-operation. The LED lights continuously.

3 Press the MULTI CONTROL button for the component that will perform the step in the multi operation, then press the operation button you want.

The LED blinks.

The following remote control commands can be selected:



4 Repeat step 3 to input multi operations to the MULTI CONTROL button you pressed in step 3.

You can repeat this process for up to five commands.

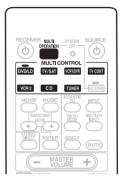
You don't need to program the receiver to switch on or off. This is done automatically.

With Pioneer components, you don't need to:

- program the power to switch on if it's the source component selected in step 2;
- program a Pioneer TV or monitor to switch on if the input function (selected in step 2) has video input terminals:
- 5 When you're finished, press the REMOTE SETUP button to exit.

Using multi operations

You can start multi operations with the receiver switched on, or in standby.



- 1 Press MULTI OPERATION.
- 2 Press the MULTI CONTROL button for the component that has been set up with a multi operation.

The receiver switches on (if it was in standby) and the programmed multi operation is performed automatically.

Programming a shutdown sequence





1 While holding down the REMOTE SETUP button press 3 to select the SYSTEM OFF setup mode.

The LED begins to blink.

2 Press the RECEIVER button.

The LED lights continuously.

- 3 Press the MULTI CONTROL button for the component you want to set SYSTEM OFF.
- 4 Press the SOURCE & button of the component to be set with SYSTEM OFF operations.
- 5 When you're finished, press the REMOTE SETUP button to exit.

Using System off

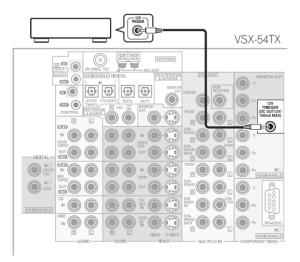
Press the MULTI OPERATION button and within 5 seconds press the RECEIVER button.



The command sequence you programmed will run, then all Pioneer components will switch off, followed by this receiver.

Switching components on and off using the 12 volt trigger

You can connect components in your system (such as a screen or projector) to this receiver so that they switch on or off using a 12 volt trigger when you select an input function. However, you must specify which input functions switch on the trigger using the System Setup menu (see 12 Volt Trigger on page 74 to do this). Note that this will only work with components that have a standby mode.



Connect the 12 V TRIGGER jack of this receiver to the 12 V TRIGGER of another component.

Use a cable with a mono mini-plug on each end for the connection.

The trigger maximum power is DC OUT 12V/100mA.

After you've specified the input functions that will switch on the trigger, you'll be able to switch the component on or off just by pressing the input function(s) you've set on page 74.

Operating other Pioneer components with this unit's sensor

Many Pioneer components have SR CONTROL jacks which can be used to link components together so that you can use just the remote sensor of one component. When you use a remote control, the control signal is passed along the chain to the appropriate component.



Important

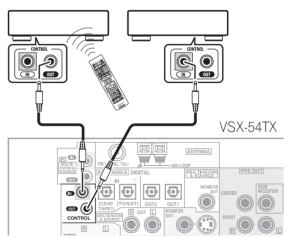
• Note that if you use this feature, make sure that you also have at least one set of analog audio or video jacks connected to another component for grounding purposes.

Decide which component you want to use the remote sensor of.

When you want to control any component in the chain, this is the remote sensor at which you'll point the corresponding remote control.

Connect the CONTROL OUT jack of that component to the CONTROL IN jack of another Pioneer component.

Use a cable with a mono mini-plug on each end for the connection.



3 Continue the chain in the same way for as many components as you have.

Note

- If you want to control all your components using this receiver's remote control, refer to Using the remote control with other components on page 53 and Programming signals from other remote controls on page 54.
- If you have connected a remote control to the **CONTROL IN** jack (using a mini-plug cable), you won't be able to control this unit using the remote sensor.

Chapter 9 **Using other functions**

Making an audio or a video recording

You can make an audio or a video recording from the built-in tuner, or from an audio or video source connected to the receiver (such as a CD player or TV).

Keep in mind you can't make a digital recording from an analog source or vice-versa, so make sure the components you are recording to/from are hooked up in the same way (see *Connecting your equipment* on page 15 for more on connections).

Note that when recording video, you won't be able to record sources connected to the component video inputs. With composite and S-video sources, make sure they are connected using the same type of video cord as you used to connect the recorder to the receiver.

For more information about video connections, see *Connecting a VCR or DVD recorder* on page 22 and *Connecting other video sources* on page 23.

1 Select the source you want to record.
Use the MULTI CONTROL buttons (or the MULTI JOG dial on the front panel).

2 Select the input signal (if necessary).

Press **SIGNAL SEL** to select the input signal corresponding to the source component (see *Selecting the input signal type* on page 41 for more on this).

3 Prepare the source you want to record. Tune to the radio station, load the CD, video, DVD etc.

4 Prepare the recorder.

Insert a blank tape, MD, video etc. into the recording device and set the recording levels.

Refer to the instructions that came with the recorder if you are unsure how to do this. Most video recorders set the audio recording level automatically—check the component's instruction manual if you're unsure.

5 Start recording, then start playback of the source component.



- The receiver's volume, tone (bass, treble, Midnight, Loudness), and surround effects have no effect on the recorded signal.
- Some digital sources are copy-protected, and can only be recorded in analog.
- Some video sources are copy-protected. These cannot be recorded.

Adjusting the delay of a soundtrack

• Default setting: 0.0 frame

Some monitors have a slight delay when showing video, so the soundtrack will be slightly out of sync with the picture. By adding a bit of delay, you can adjust the sound to match the presentation of the video.

1 Press RECEIVER.

2 Press EFFECT/CH SEL repeatedly until DELAY shows in the display.





3 Use the +/- buttons to adjust the amount of delay.

The delay can be adjusted from 0.0–6.0 frames (in 0.1 frame steps).



- One second is equal to 30 frames of NTSC format video.
- This setting is applied to all video sources.
- You can't use sound delay when MULTI CH IN or DIRECT is switched on.

Watching video and audio sources independently

You can listen to a sound source and select a different video source on your TV.

 While listening to a source, press RECEIVER, then VIDEO SEL to select the video source you want to watch.





Press repeatedly to cycle through the possible video sources. You can select **DVD/LD**, **TV/SAT**, **VIDEO**, **VCR1/DVR**, **VCR2** or **OFF** (no video signal).

 Selecting any input besides those listed above is the same as selecting OFF.



 If you change the source using the MULTI CONTROL buttons (or the MULTI JOG dial on the front panel), or switch the power off, the system returns to normal playback.

Dimming the display

You can choose between four brightness for the front panel display. Note that when selecting sources, the display automatically brightens for a few seconds.





- 1 Press RECEIVER.
- 2 Press DIMMER repeatedly to change the brightness of the front panel display.



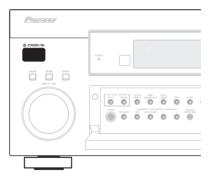
• Switching the dimmer to lowest setting will also switch off the MCACC indicators.

Switching the speaker impedance

• Default setting: Speaker 8Ω

You can use speakers with a nominal impedance between 6–16 Ω but if you are using speakers with an impedance of less than 8Ω , you must change the impedance setting below.

• With the receiver in standby, press \circlearrowleft STANDBY/ ON while holding down the SPEAKERS button.





Each time you do this, you switch between the impedance settings:

- Speaker 6Ω Use this setting if your speakers are rated lower than 8Ω (down to 6Ω).
- Speaker 8Ω Use this setting if your speakers are rated 8Ω – 16Ω .

Resetting remote control



 You can cancel or exit any of the following steps by pressing REMOTE SETUP.



Clearing multi operations

You can clear a multi operation (see *Programming a multi-operation* on page 58) you have programmed.

Press and hold both the REMOTE SETUP button and 8 for more than 3 seconds.

The LED lights will blink 3 times and all multi operation settings will be erased.

Clearing learned remote control commands

You clear a learned command (see *Programming signals from other remote controls* on page 54) you have assigned to a button.

• Press and hold both the REMOTE SETUP button and 9 for more than 3 seconds.

The LED lights will blink 3 times and all learned remote control commands will be erased.

Clearing all remote control settings

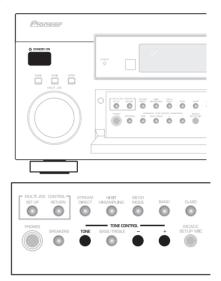
You can clear all custom settings you have made with the remote.

• Press and hold both the REMOTE SETUP button and 0 for more than 3 seconds.

The LED lights will blink 3 times and all remote control settings will be erased.

Resetting the system

Use this feature to reset the system to its factory default settings.



- 1 Switch the receiver into standby.
- 2 While holding down the front panel TONE button, press and hold \circlearrowleft STANDBY/ON for about three seconds.

The display shows **RESET?**.

3 Press the front panel TONE- button.

The display shows **OK?**.

4 Within 5 seconds, press TONE+.

The display shows \mathbf{OK} and the receiver should now be reset.



- Make sure the multi-room feature is switched off when doing this.
- If the receiver is unplugged from the AC outlet for a month or more, it resets to the default settings.

Chapter 10 Other connections

Caution

- Before making or changing the connections, switch off the power and disconnect the power cord from the power outlet. Plugging in components should be the last connection you make with your system.
- Be careful not to allow any contact between speaker wires from different terminals.
- You can use speakers with a nominal impedance between 6–16Ω (please see Switching the speaker impedance on page 63 if you plan to use speakers with an impedance of less than 8Ω).

Second Zone speaker B setup

After selecting **Second Zone** in *Surround back speaker setting* on page 50, you can use the speakers connected to the (surround back) B speaker terminals on the rear panel to listen to stereo playback in another room. See *Switching the speaker system* below for the listening options with this setup.

1 Connect a pair of speakers to the surround back speaker terminals on the rear panel.

Connect them the same way you connected your speakers in *Connecting the speakers* on page 29. Make sure to review *Placing the speakers* on page 29 when placing the speakers in another room.

2 Select 'Second Zone' from the 'SurrBack System' menu.

See Surround back speaker setting on page 50 to do this.



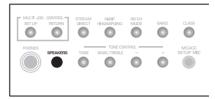
 You can also use the multi-room feature to listen to stereo playback in another room. See Multi-room listening on page 67 for more on this.

Switching the speaker system

If you selected **Second Zone** in *Surround back speaker* setting on page 50, three speaker system settings are possible using the **SPEAKERS** button. If you selected **Normal Surround**, the button will simply switch your main speaker system on or off. The options below are for the **Second Zone** setting only

• Use the SPEAKERS button on the front panel to select a speaker system setting.

As mentioned above, if you have selected **Normal Surround**, the button will simply switch your main speaker system (A) on or off.



Press repeatedly to choose a speaker system option:

- SPPA Sound is output from speaker system A and the same signal is output from the pre-out terminals.
- SP>B Sound is output from the two speakers connected to speaker system B. Multichannel sources will not be heard.
- SP►AB Sound is output from speaker system A (up to 5 channels, depending on the source), the two speakers in speaker system B. The sound from speaker system B will be the same as the sound from speaker system A (multichannel sources will be downmixed to 2 channels).
- SP► (off) No sound is output from the speakers. The same sound is output from the pre-out terminals as when selecting speaker system A (above).

Mote

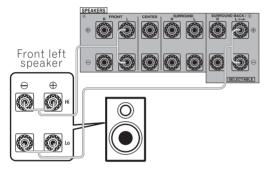
- The subwoofer output depends on the settings you made in *Normal surround setting* on page 50.
 However, if SP►B is selected above, no sound is heard from the subwoofer (the LFE channel is not downmixed).
- Depending on the settings in Normal surround setting on page 50 and Listening with Acoustic Calibration EQ on page 41, output from the surround back pre-out terminals may change.
- Some sources (for example, when MULTI CH IN is selected) will not be downmixed.
- All speaker systems are switched off when headphones are connected.

Bi-amping your front speakers

Bi-amping is when you connect the high frequency driver and low frequency driver of your speakers to different amplifiers (in this case, to both front and surround back terminals) for better crossover performance. Your speakers must be bi-ampable to do this (having separate terminals for high and low) and the sound improvement will depend on the kind of speakers you're using.

1 Connect your speakers as shown below.

This illustration below shows the connections for biamping your front left speaker. Hook up your front right speaker in the same way.



Since both front and surround back speaker terminals output the same audio, it doesn't matter which set (front or surround back) is powering which part (**Hi** or **Low**) of the speaker.

 Make sure that the +/ - connections are properly inserted.

2 Select the 'Front Bi-Amp' setting from the 'SurrBack System' menu.

See Surround back speaker setting on page 50 to specify how you're using the surround back speaker terminals.



- Most speakers with both Hi and Low terminals have two metal plates that connect the Hi to the Low terminals. These must be removed when you are biamping the speakers or you could severely damage the amplifier. See your speaker manual for more information.
- If your speakers have a removable crossover network, make sure you do not remove it for bi-amping. Doing so may damage your speakers.

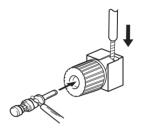
Bi-wiring your speakers

The reasons for bi-wiring are basically the same as biamping, but additionally, interference effects within the wire could be reduced, producing better sound. Again, to do this your speakers must be bi-wireable (that is they

must have separate terminals for the high and low frequencies). When bi-wiring, make sure you've selected **Normal Surround** in *Surround back speaker setting* on page 50.

• To bi-wire a speaker, connect two speaker cords to the speaker terminal on the receiver.

Using a banana plug for the second connection is recommended.



Caution

- Make sure you use a parallel (not series, which are fairly uncommon) connection when bi-wiring your speakers.
- Don't connect different speakers from the same terminal in this way.

Multi-room listening

This receiver can power two independent systems in separate rooms after you have made the proper multiroom connections. Different sources can be playing in both rooms at the same time or, depending on your needs, the same source can also be used. The main and sub rooms have independent power (the main room power can be off while the sub room is on) and the sub room can be controlled by the front panel controls. However, you may need to specify the volume setting *Multi-Room and IR receiver setup* on page 74.

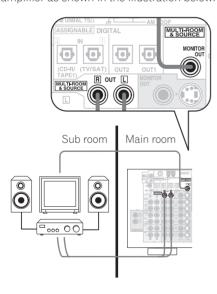
Making multi-room connections

It is possible to make these connections if you have a separate TV and speakers for your sub room. You will also need a separate amplifier if you are not using the SurrBack System setup (see below). There are two multiroom setups possible with this system:

Basic multi-room setup

 Connect a separate amplifier to the MULTI-ROOM & SOURCE OUT jacks and a TV monitor to the MULTI-ROOM & SOURCE MONITOR OUT jacks, both on the rear of this receiver.

You should have a pair of speakers attached to the sub room amplifier as shown in the illustration below.

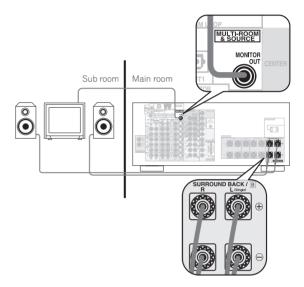


SurrBack System multi-room setup

You must select **MR&S** in *Surround back speaker setting* on page 50 to use this setup. Note that the sound in the sub room will be temporarily interrupted when controlling the main room (for example, changing the input source or starting playback).

Connect a TV monitor to the MULTI-ROOM & SOURCE MONITOR OUT jacks on the rear of this receiver

You should have a pair of speakers attached to the surround back speaker terminals as shown in the illustration below.

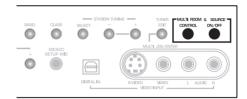


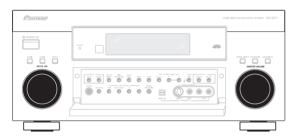
Note

- It is not possible to hear the digital output of a component in the sub room. However, you can connect the analog outputs of your digital component into the receiver's (analog) input terminals to hear the component in the sub room.
- You can't use sound controls (such as the tone controls or Midnight listening) or any surround modes in the sub room. You can, however, use the features available with your sub room amplifier.

Using the multi-room controls

You can use the front panel controls to adjust the sub room volume and select sources.





1 Press the MULTI-ROOM & SOURCE ON/OFF button on the front panel.

The **MULTI-ROOM** indicator lights and **MR&S ON** appears in the front panel display to indicate the multi-room control has been switched on.

2 Press CONTROL.

Make sure that any operations for the sub room are done while **MULTI-ROOM** shows in the display. If **MULTI-ROOM** is not showing, the front panel controls affect the main room only.

3 Use the MULTI JOG dial to select the source. Select between DVD/LD, TV/SAT, VCR 1/DVR, CD, CD-R/TAPE 1 or TUNER (in that order).

If you select **TUNER**, you can use the front panel **TUNER** controls to select a preset station (see *Listening to memorized station presets* on page 47 if you're unsure how to do this).

4 Use the MASTER VOLUME dial to adjust the volume.

This is only possible if you selected the **VARIABLE** volume control in *Multi-Room and IR receiver setup* on page 74.

5 When you're finished, press CONTROL again to return to the main room controls.

You can also press the **MULTI ROOM & SOURCE ON/ OFF** button on the front panel to switch off all output to the sub room.



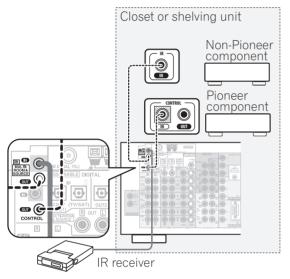
• Multi-room can't be used when you're setting up the system (from the on-screen **System Setup** menu).

- You won't be able to switch the main room off completely unless you've switched off the multi-room control first.
- The tuner cannot be tuned to more than one station at a time. Therefore, changing the station in one room also changes the station in the other room. Please be careful not to change stations when recording a radio broadcast.
- The volume levels of the main and sub rooms are independent.
- If you don't plan to use the multi-room feature for awhile, turn off the power in both the sub and main rooms. Make sure the STANDBY indicator turns red and the MULTI-ROOM indicator goes off.

Connecting an IR receiver

If you keep your stereo components in a closed cabinet or shelving unit, you can use an optional IR receiver (such as a Niles or Xantech unit) to control your system instead of the remote sensor on the front panel of this receiver. You may need to specify your IR receiver type in *Multi-Room and IR receiver setup* on page 74.

1 Connect the IR receiver sensor to the MULTI-ROOM & SOURCE IR IN jack on the rear of this receiver.



2 Connect the IR IN jack of another component to the MULTI-ROOM & SOURCE IR OUT jack on the rear of this receiver to link it to the IR receiver.

Please see the manual supplied with your IR receiver for the type of cable necessary for the connection.

• If you want to link a Pioneer component to the IR receiver, see *Operating other Pioneer components with this unit's sensor* on page 60 to connect to the **CONTROL** jacks instead of the **IR OUT** jack.

Note

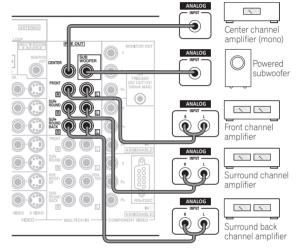
- Remote operation may not be possible if direct light from a strong fluorescent lamp is shining on the IR receiver remote sensor window.
- Note that other manufacturers may not use the IR terminology. Refer to the manual that came with your component to check for IR compatibility.
- If using two remote controls (at the same time), the IR receiver's remote sensor takes priority over the remote sensor on the front panel.

Connecting additional amplifiers

This receiver has more than enough power for any home use, but it's possible to add additional amplifiers to every channel of your system using the pre-outs. Make the connections shown below to add amplifiers to power your speakers.

Note

 Before making or changing the connections, switch off the power and disconnect the power cord from the AC outlet.



- You can use the additional amplifier on the surround back channel pre-outs for a single speaker as well. In this case plug the amplifier into the left (L (Single)) terminal only.
- The sound from the surround back terminals will depend on how you have configured the *Surround back speaker setting* on page 50.

Connecting a PC for Advanced MCACC output

If you use the Professional Acoustic Calibration (see page 79) to measure the reverb characteristics of your listening room, you can check the results graphically using a computer connected to this receiver. Use a commercially-available RS-232C cable to connect the RS-232C jack on your computer to the 9-pin RS-232C jack on the back panel of this receiver (the cable must be cross type, female–female).

To obtain the software to output the results, please register this unit online as instructed on the front cover of the manual. After registering, you will receive an email within a week, in which both the software and instruction manual will be available. If you have any questions regarding, please contact the Customer Support Division of Pioneer.

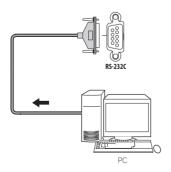
Please make sure your system meets the following requirements:

- Operating system must be Windows[®] XP, Windows[®] 2000, Windows[®] Millennium Edition, Windows[®] 98
 Second Edition, or Windows[®] NT 4.0 (Service pack 6).
- CPU must be at least Pentium 3/300MHz or AMD K6/300MHz (or equivalent) with at least 128MB of memory, and your monitor must be able to display a minimum resolution of 800x600.
- An RS-232C port connector is necessary for graphical output. Refer to the operating instructions and/or the PC manufacturer for more information on making the proper port settings.
- System must have internet access.

• Connect your computer to the RS-232C jack on the rear panel of the receiver.

Make sure that the receiver and all connected components are switched off and disconnected from the power outlet when you do this.

Use a commercially-available cable to connect the RS-232C jack on your computer to the 9-pin RS-232C jack on this receiver. See the documentation provided with the Advanced MCACC application for more information.

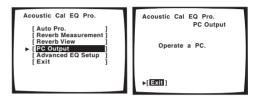


Advanced MCACC output using your PC

Before continuing, make sure you have completed *Professional Acoustic Calibration* on page 79.

1 Select 'PC Output' and press ENTER.

When the receiver is ready for transmission, **Operate a PC** shows on the OSD.



2 Start the MCACC application on your computer.

Follow the instructions provided with the application. It will take about ten seconds for the transmission to complete, then you will be able to analyze the output on your computer. Since the data will be cleared from the receiver when you restart reverb measurement you might want to save the information on your PC after measurement.

3 When you're finished, select 'Exit' on the onscreen display.

You'll be taken to the Advanced EQ Setup. Depending on the results, you may want to continue with the Advanced EQ setup (see Setting Professional Acoustic Calibration according to your room characteristics on page 80 for more on this). You can also simply press **Exit** again to exit the Professional Acoustic Calibration setup.

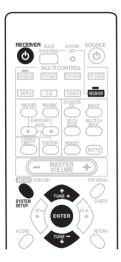
Chapter 11 Advanced setup

The System Setup menu

The System Setup menu is where you can make customized settings to reflect how you are using the receiver.

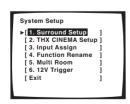
- 1 Switch on the receiver and your TV.
- 2 Using the remote control, press RECEIVER, then press the SYSTEM SETUP button.

An on-screen display (OSD) appears on your TV. Use the †/‡ (cursor up/down) buttons and **ENTER** on the remote control to navigate through the screens and select menu items.





- 3 Select the setting you want to adjust then press ENTER.



- Surround Setup Access the setup menu for basic surround sound settings (see *Making receiver settings from the Surround Setup menu* on page 49 for more on this).
- THX CINEMA Setup Select the decoding method used with the THX CINEMA mode (see THX CINEMA Setup below).
- Input Assign Specify what you've connected to the digital and component video inputs (see *The Input Assign menu* below).
- Function Rename Change the names that appear on the receiver display and on-screen display (see Function Rename on page 73).
- Multi Room Specify your volume setting and IR receiver type for a multi-room setup (see *Multi-Room and IR receiver setup* on page 74).
- 12V Trigger Specify which components are switched on or off using the 12 volt trigger (see 12 Volt Trigger on page 74).
- 4 Make the adjustments necessary for each setting, pressing ENTER to confirm after each setting.

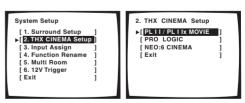
THX CINEMA Setup

• Default setting: PLII / PLIIx MOVIE

If you want, you can choose which decoding method the receiver will use for 2 channel sources when you've selected the **THX CINEMA** mode (see *Listening in surround sound* on page 37 for details).

1 Select 'THX CINEMA Setup' from the System Setup menu.

The current setting is highlighted on-screen:



2 Select the THX CINEMA decoding format you want.

For more on decoding formats see *Surround sound formats* on page 90.



- □□Pro Logic II / □□Pro Logic IIx MOVIE
- □□Pro Logic
- Neo:6 CINEMA

3 When you're finished, select 'Exit'.

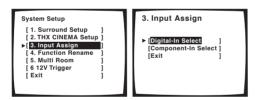
You will return to the System Setup menu.

The Input Assign menu

You only need to make settings in the Input Assign menu if you didn't hook up your digital equipment according to the default settings for the digital inputs, or if you have connected equipment using component video cables.

Select 'Input Assign' from the System Setup menu.

The Input Assign menu appears on screen:



Assigning the digital inputs

· Default settings:

Digital-1 (optical) - TV/SAT

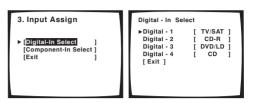
Digital-2 (optical) - CD-R

Digital-3 (coaxial) - DVD/LD

Digital-4 (coaxial) - CD

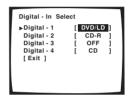
You only need to do this if you didn't hook up your digital equipment according to the default settings for the digital inputs (see above). This setting tells the receiver what digital equipment is hooked up to which terminal so the buttons on the remote correspond to what you have hooked up.

1 Select 'Digital-In Select' from the Input Assign menu.



2 Select the number of the digital input to which you've connected your digital component.

The numbers correspond with the numbers beside the inputs on the back of the receiver.



3 Select the component that corresponds with the one you connected to that input

Select between DVD/LD, TV/SAT, VCR1, VCR 2, CD, CD-R or MD.

- Use the ↑/↓ (cursor up/down) buttons and ENTER to do this.
- If you assign a digital input to a certain function (for example, DVD/LD) then any digital inputs previously assigned to that function will automatically be switched off.

4 When you're finished, select 'Exit'.

You will return to the Input Assign menu.

Assigning the component video inputs

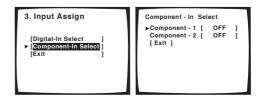
Default settings:

Component-1 – OFF

Component-2 – OFF

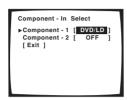
If you used component video cables to connect your video equipment you must tell the receiver which device it is, or else you may see the S-video or composite video input instead of the component video signal.

1 Select 'Component -In Select' from the Input Assign menu.



2 Select the number of the component video input to which you've connected your video component.

The numbers correspond with the numbers beside the inputs on the back of the receiver.



- 3 Select the component that corresponds with the one you connected to that input.
 - Use the ↑/↓ (cursor up/down) buttons and ENTER to do this.
 - If you connect any source component to the receiver using a component video input, you should also have your TV connected to this receiver's component video MONITOR output.
- 4 When you're finished, select 'Exit'.

You will return to the Input Assign menu.

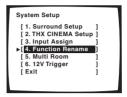
Function Rename

You can customize the names that appears on the display when you select an input source (for example, you could change the name of **VCR1/DVR** to **DVR-310**).





1 Select 'Function Rename' from the System Setup menu.



2 Select the name of the input you want to rename.

CD [CD] CD-R/TAPE1 [CD-R/TAPE1] MD/TAPE2 [MD/TAPE2] [Exit]

3 Edit the name as necessary, then press ENTER repeatedly to set the name and move to the following line.



Use the front panel **MULTI JOG** dial (or ↑/↓ on the remote) to change the character and **ENTER** to move forward a position. If you want to change a character you input, you can press **RETURN** to go back one position.

The name can be up to ten characters (the possible characters are listed below).

ABCDEFGHIJKLMNOPQRSTUVWXYZ abcdefghijklmnopqrstuvwxyz 0123456789

!"#\$%&'()*+,-./:;<=>?@[\]^_{|} (space)

4 Select another name to edit, or select 'Exit' from the bottom of the list if you're done.

If you've selected another name, repeat step 3, otherwise you'll return to the System Setup menu.

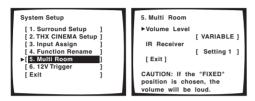
Advanced setup

Multi-Room and IR receiver setup

• Default setting: VARIABLE / Setting 1

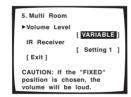
If you've made multi-room connections (see *Multi-room listening* on page 67) you may need to specify your volume setting. Also use this menu to specify your IR receiver type (if necessary).

1 Select 'Multi-Room from the System Setup menu.



2 Select the volume level setting.

- VARIABLE Use this setting if you've connected a
 power amplifier in the sub room (this receiver is
 simply being used as a pre-amp) and you will be
 using this receiver's controls to adjust the volume.
- FIXED Use this setting if you've connected a fully integrated amplifier (such as another Pioneer VSX receiver) in the sub room and want to use that receiver's volume controls.



With the **FIXED** setting, the source is sent from this receiver at maximum volume, so make sure the volume is quite low in the sub room at first and then experiment to find the correct level.

3 Select the type of IR receiver you're using.

- Setting 1 Use this setting for all (other) IR receivers.
- Setting 2 Use this setting if the IR receiver you're using doesn't seem to work after selecting Setting 1.

4 When you're finished, select 'Exit' and press ENTER.

You will return to the System Setup menu.



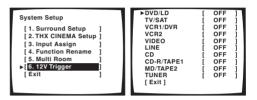
- Some IR receivers may not work with this receiver.
 Check with your audio dealer for more information.
- If you selected MR&S in the Surround back speaker setting on page 50, you won't be able to change the volume level.

12 Volt Trigger

• Default setting: OFF (all components)

After connecting a component the 12 volt trigger (see *Switching components on and off using the 12 volt trigger* on page 60), it switches on automatically when you select an input function set to switch the trigger on. Specify which input functions switch on the trigger below.

1 Select '12V Trigger' from the System Setup menu.



2 Select an input function and choose the setting that you want.

This should be the input function, that when selected, switches on the 12 volt trigger.

DVD/LD TV/SAT VCR1/DVR VCR2 VIDEO LINE CD CD-R/TAPE1 MD/TAPE2 TUNER [Exit]]]]]]	ON OFF OFF OFF OFF OFF OFF OFF]
--	-----------------------	---	---

- **OFF** 12 volt trigger is not activated for the selected component.
- ON 12 volt trigger is activated for the selected component.

3 Repeat for as many input functions as you would like to set.

4 When you're finished, select 'Exit'.

You will return to the System Setup menu.

The Expert setup menu

The settings in the Expert setup menu are more advanced features of this receiver that you can use to make detailed adjustments when you're more familiar with the system. Before making these settings, you should have already completed *Automatically setting up for surround sound* on page 12.

You only need to make these settings once (unless you change the placement of your current speaker system or add new speakers).

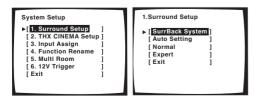
- 1 Make sure your receiver and TV are both switched on.
- 2 Using the remote control, press RECEIVER, then press the SYSTEM SETUP button.

An on-screen display (OSD) appears on your TV. Use the †/↓ (cursor up/down) buttons and ENTER on the remote control to navigate through the screens and select menu items.





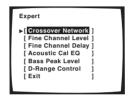
- 3 Select 'Surround Setup' then press ENTER.



4 Select 'Expert' then press ENTER.



5 Select the setting you want to adjust.



- Crossover Network

 Specify which frequencies will
 be sent to the subwoofer (see Crossover Network
 below).
- Fine Channel Level Make fine adjustments to the overall balance of your speaker system (see *Fine Channel Level* below).
- Fine Channel Delay—Make precise delay settings for your speaker system (see Fine Channel Delay on page 76).
- Acoustic Cal EQ Measure the acoustic characteristics of your room and make detailed adjustments to the frequency balance of your speaker system (see Acoustic Calibration EQ on page 77 and Professional Acoustic Calibration on page 79).
- Bass Peak Level Prevent bass tones from distorting the sound from your speakers (see Bass Peak Level on page 82).
- D-Range Control Specify the amount of dynamic range adjustment to Dolby Digital and DTS movie soundtracks (see *Dynamic Range Control* on page 83).
- 6 Make the adjustments necessary for each setting, pressing ENTER to confirm after each setting.

When you're finished, you can select **Exit**, then press **ENTER** to go back to the System Setup menu.

Advanced setup

Crossover Network

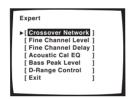
• Default setting: 80Hz

This setting decides the cutoff between bass sounds playing back from the speakers selected as **LARGE**, or the subwoofer, and bass sounds playing back from those selected as **SMALL**. It also decides where the cutoff will be for bass sounds in the LFE channel.



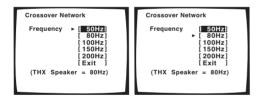
- For more on selecting the speaker sizes, see *Normal* surround setting on page 50.
- You don't need to set the crossover frequency if all speakers are set to LARGE.

1 Select 'Crossover Network' from the Expert setup menu.



2 Choose the frequency cutoff point.

Frequencies below the cutoff point will be sent to the subwoofer (or **LARGE** speakers).



3 When you're finished, select 'Exit'.

You will return to the Expert setup menu.

Fine Channel Level

• Default setting: **0dB** (all channels)

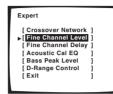
You can achieve better surround sound by properly adjusting the overall balance of your speaker system. The following setting can help you make detailed adjustments that you may not achieve using the *Normal surround setting* on page 50.

1 Select 'Fine Channel Level' from the Expert setup

The volume increases to the **0dB** reference level.



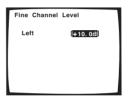
• After pressing **ENTER**, loud test tones will be output.





2 Adjust the level of the left channel.

This will be the reference speaker level, so you may want to keep the level around **0dB** so that you'll have plenty of room to adjust the other speaker levels.



3 Select each channel in turn and adjust the levels (+/- 10dB) as necessary.

Use ↑/↓ (cursor up/down) to adjust the volume of the speaker you selected to match the front left (reference) speaker. When it sounds like both tones are the same volume, press **ENTER** to confirm and continue to the next channel.



 If you want to go back and adjust a channel, simply use ↑/↓ (cursor up/down) to select it.

4 When you're finished, select 'Exit'.

You will return to the Expert setup menu.

Fine Channel Delay

For proper sound depth and separation with your system, it is necessary to add a slight bit of delay to some speakers so that all sounds will arrive at the listening position at the same time. The following setting can help you make detailed adjustments that you may not achieve using the *Normal surround setting* on page 50.

1 Select 'Fine Channel Delay' from the Expert setup menu.



2 Adjust the distance of the left channel from the listening position.



3 Select each channel in turn and adjust the distance as necessary.

Use ↑/↓ (cursor up/down) to adjust the delay of the speaker you selected to match the front left (reference) speaker. The delay is measured in terms of speaker distance from **0.5** to **45** feet.



Listen to the reference speaker and use it to measure the target channel. Face the two speakers with your arms outstretched pointing at each speaker. Try to make the two tones sound as if they are arriving simultaneously at a position slightly in front of you and between your arm span.



When it sounds like the delay settings are matched up, press **ENTER** to confirm and continue to the next channel.

 If you want to go back and adjust a channel, simply use ↑/↓ (cursor up/down) to select it.

4 When you're finished, select 'Exit'.

You will return to the Expert setup menu.

Acoustic Calibration EQ

Acoustic Calibration Equalization is a kind of room equalizer for your speakers (excluding the subwoofer). It works by measuring the acoustic characteristics of your room and neutralizing the ambient characteristics that can color the original source material. You can also make these settings manually to get a frequency balance that suits your tastes. A more advanced setup is also available, where you can make detailed settings according to your room's reverb characteristics (see *Professional Acoustic Calibration* on page 79). You should have the mic connected when using any of the setup options.

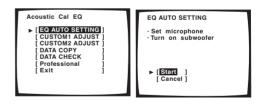
Setting the Acoustic Calibration EQ automatically

If you have already completed *Automatically setting up for surround sound* on page 12, **ALL CH ADJUST** and **FRONT ALIGN** (below) should already be set. Therefore, if you want to adjust your settings manually, you can skip to *Setting the Acoustic Calibration EQ manually* below.

1 Select 'Acoustic Cal EQ' from the Expert setup menu.



2 Select 'EQ AUTO SETTING' then select 'Start'.



As the receiver outputs test tones, the frequency balance is adjusted automatically for the following settings:

- ALL CH ADJUST All the speakers are set individually so no special weighting is given to any one channel.
- FRONT ALIGN All speakers are set in accordance with the front speaker settings.

!! Complete !! is displayed on-screen after the Acoustic Calibration Equalization is set. If you want to check the settings, select **Check**. Select **Next** after you have finished checking each screen.

 If you want to copy these settings and adjust them manually, select **Data Copy**. Go to step 3 of *Copying* your Acoustic Calibration EQ settings below.

3 When you're finished, select 'Exit'.

You will return to the Acoustic Cal EQ setup menu.

Setting the Acoustic Calibration EQ manually

Before manually adjusting the Acoustic Calibration EQ. we recommend copying the ALL CH ADJUST or the FRONT ALIGN settings from the auto setup above (or from Automatically setting up for surround sound on page 12) to one of the custom settings. Instead of just a flat EQ curve, this will give you a reference point from which to start (see Copying your Acoustic Calibration EQ settings below for how to do this).

Select 'Acoustic Cal EQ' from the Expert setup menu.

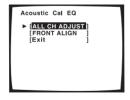


2 Select CUSTOM1 ADJUST or CUSTOM2 ADJUST.



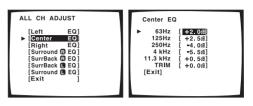
3 Select which method you would like to use to adjust the overall frequency balance.

It is best to choose whichever one you copied to the custom setting in Copying your Acoustic Calibration EQ settings below.



- ALL CH ADJUST All the speakers can be set independently so no special weighting is given to any one channel. When adjusting, test tones will sound for each individual channel.
- FRONT ALIGN Speakers are set in accordance with the front speaker settings. The sound of the test tone will alternate between the left front (reference) speaker and the target speaker.

4 Select the channel(s) you want and adjust to your liking.



Use the 1/↓ (cursor up/down) buttons to select the channel (and ENTER to select it).

Use the ↑/↓ (cursor up/down) buttons to select the frequency and 1/4 (cursor up/down) to boost or cut the EQ. When you're finished, the cursor automatically moves to the next channel after you press **ENTER**.

 The front speakers can't be adjusted if you selected FRONT ALIGN



C Tip

• Changing the frequency curve of one channel too drastically will affect the overall balance. If the speaker balance seems uneven, you can raise or lower channel levels using test tones with the TRIM feature. Use 1/↓ (cursor up/down) to raise or lower the channel level for the current speaker.

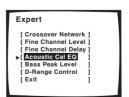
5 When you're finished, select 'Exit'.

Select Exit again to confirm your custom settings and return to the Acoustic Cal EQ setup menu.

Copying your Acoustic Calibration EQ settings

If you want to manually adjust the Acoustic Calibration EQ (see Setting the Acoustic Calibration EQ manually above), we recommend copying the ALL CH ADJUST or the **FRONT ALIGN** settings from the **Auto** setup above (or from Automatically setting up for surround sound on page 12) to one of the custom settings. Instead of just a flat EQ curve, this will give you a reference point from which to start.

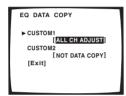
1 Select 'Acoustic Cal EQ' from the Expert setup menu.



2 Select 'DATA COPY' then press ENTER.



3 Select CUSTOM1 or CUSTOM2 then use the ↑/↓ (cursor up/down) buttons to select the setting you want to copy.



- You can also copy from one custom setting to another. For more on the ALL CH ADJUST and FRONT ALIGN settings, see Setting the Acoustic Calibration EQ automatically above.
- 4 Select 'Exit' to copy and confirm.

You will return to the Acoustic Cal EQ setup menu.

Checking your Acoustic Calibration EQ settings

If you want to manually adjust the Acoustic Calibration EQ (see Setting the Acoustic Calibration EQ manually above), we recommend copying the ALL CH ADJUST or the FRONT ALIGN settings from the Auto setup above (or from Automatically setting up for surround sound on page 12) to one of the custom settings. Instead of just a flat EQ curve, this will give you a reference point from which to start.

1 Select 'Acoustic Cal EQ' from the Expert setup menu.



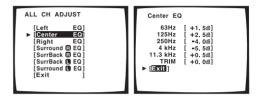
2 Select 'DATA CHECK' then press ENTER.



3 Select the setting you want to check.



4 Select the channels you want, selecting 'Exit' when you're finished checking each one.



5 When you're finished, select 'Exit'. You will return to the Acoustic Cal EQ setup menu.

Professional Acoustic Calibration

This setup minimizes the unwanted effects of room reverberation by calibrating your system based on the direct sound coming from the speakers. It can also provide you with a graphical output of the frequency response of your room.



 Before setting up with Professional Acoustic Calibration, you should finish calibrating using the Auto Surround Setup on page 12.

How to use Professional Acoustic Calibration

If you find that lower frequencies seem overly reverberant in your listening room (i.e. it sounds 'boomy'), or that different channels seem to exhibit different reverb characteristics, use the Auto Pro setup to calibrate the room automatically. This should provide a more balanced calibration than simply using the standard Acoustic Calibration EQ. The manual setup allows you to customize your system calibration with the help of a graphical output that can be displayed on-screen, or using a computer (with software available from Pioneer—see Connecting a PC for Advanced MCACC output on page 70 for more on this).

How to interpret the graphical output

The graph shows decibels on the vertical axis and time (in milliseconds) on the horizontal axis. A straight line indicates a flat-response room (no reverb), whereas a sloping line indicates the presence of reverberation when outputting test tones. The sloping line will eventually flatten out when the reverberant sound stabilizes (this usually takes about 100ms or so).

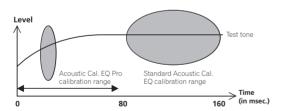
By analyzing the graph, you should be able to see how your room is responding to certain frequencies. Differences in channel level and speaker distance are taken into account automatically (compensation is provided for comparison purposes), but the frequency measurements are always shown without the equalization performed by this receiver.

Note that due to an effect known as 'group delay', lower frequencies will take longer to be generated than higher frequencies (this is most obvious when comparing the frequencies at 0ms). This initial slope is not a problem (i.e. excessive reverb) with your listening room.

Setting Professional Acoustic Calibration according to your room characteristics

Using the manual setup, you can set the time period at which the frequency response is analyzed for calibration. You can pinpoint the time that is best for calibration of the system for your particular room characteristics.

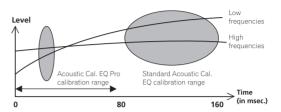
The graph below shows the difference between standard acoustic calibration and professional calibration (the gray circles represent the point at which the microphone captures the sound for frequency analysis).



As soon as audio is output from your speaker system, it is influenced by room characteristics, such as walls, furniture, and the dimensions of the room. The sooner the frequency analysis, the less it is influenced by the room. We recommend an earlier time setting of 20–40ms to compensate for two major factors that will influence the sound of most rooms:

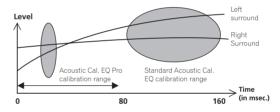
Reverberance of high vs. low frequencies – Depending on your room, you may find that lower frequencies seem overly reverberant compared to higher frequencies (i.e. your room sounds the part).

frequencies seem overly reverberant compared to higher frequencies (i.e. your room sounds 'boomy'). This may result in a skewed frequency analysis if the measurement is done too late.



Reverb characteristics for different channels –

Reverb characteristics can be somewhat different for each channel. Since this difference increases as the sound is influenced by the various room characteristics, it is often better to capture a frequency analysis early on for smoother mixing of channel frequencies/sounds.

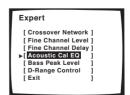


If your room isn't affected by the factors above, it is often not necessary to make a 20–40ms setting. Later time settings may provide a more detailed sound experience with your speaker system. It is best to try and see what works best for your particular room.

Note that changing the room (for example, moving furniture or paintings) will affect the calibration results. In such cases, you should recalibrate your system.

Using Professional Acoustic Calibration

1 Select 'Acoustic Cal EQ' from the Expert setup menu.



2 Select 'Professional'.

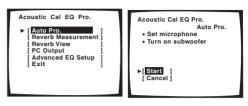


3 Select a setup option.

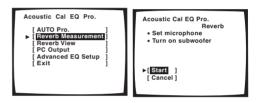


- Auto Pro. This is the recommended setup when using the Professional Acoustic Calibration. If you feel confident with a setup that's more involved, you can use an advanced setup below. With this setup, the receiver automatically sets an early time period (20–40 ms or 60–80 ms) for reverb measurement, giving you a system calibration based on the direct sound coming from the speakers. The frequency balance for each channel is then adjusted to minimize the effect of the room characteristics on the overall sound.
- Reverb Measurement Use this to measure the reverb characteristics of your room for each channel in select frequency ranges. Since this measurement is also made in **Auto Pro** (above), there is no need to do this again if you were satisfied with the results.
- **Reverb View** You can check the reverb measurements made for specified frequency ranges in each channel.
- **PC Output** See *Connecting a PC for Advanced MCACC output* on page 70 for more on this option.
- Advanced EQ Setup Use this to select the time period that will be used for frequency adjustment and calibration, based on the reverb measurement of your listening area. Note that this advanced setup is not necessary if you're satisfied with the results of Automatically setting up for surround sound on page 12 or Auto Pro above (your previous settings will be altered with this setup).

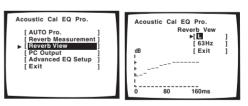
4 If you selected 'Auto Pro.', select 'Start' and press ENTER.



- **!! Complete !!** is displayed on-screen after the Acoustic Calibration Equalization is set. Select **Exit** to return to the Professional Acoustic Calibration menu.
- 5 If you selected 'Reverb Measurement', select 'Start' and press ENTER.



- **!! Complete !!** is displayed on screen when the reverb measurement is finished (this may take 2–6 minutes). After selecting **Exit**, you can select **Reverb View** to see the results on-screen. See *Connecting a PC for Advanced MCACC output* on page 70 for more on setting up your computer for the graphical output.
- 6 If you selected 'Reverb View', you can use the cursor buttons (buttons) to check the reverb characteristics for each channel. Select 'Exit' when you're done.

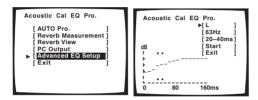


 If No Data is displayed, you will need to make a reverb measurement using the Auto Pro or Reverb Measurement setup option.

Use the **1/** (cursor up/down) buttons (and **ENTER**) to select the channel and the frequency you want to check. Note that the markers on the vertical axis indicate decibels in 2dB steps.

If you selected 'Advanced EO Setup', input the time setting you want to use for calibration, then select 'Start'.

After checking on the reverb measurement above, you may want to manually choose the time period that will be used for the final frequency adjustment and calibration. Even though you can make this setting without reverb measurement, it is best to use the measurement results as a reference for your time setting. For an optimal system calibration based on the direct sound coming from the speakers, we recommend using the 20-40ms setting.



• If No Data is displayed, you will need to make a reverb measurement using the Auto Pro or Reverb Measurement setup option.

Use the 1/↓ (cursor up/down) buttons to select the channel, frequency, and time setting. Use the 1/4 (cursor up/down) buttons to switch between them.

You can switch between your connected speakers (excluding the subwoofer), and display the measurements for the following frequencies: 63Hz, 125 Hz, 250Hz, 1kHz, 4kHz, and 11.3kHz.

Select the setting from the following time periods (in milliseconds): 0-20ms, 10-30ms, 20-40ms, 30-50ms, 40-60ms, 50-70ms and 60-80ms. This setting will be applied to all channels during calibration.

When you're finished, select **Start**. It will take about 2–11 minutes for the calibration to finish.

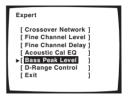
!! Complete !! is displayed on-screen after the Acoustic Calibration Equalization is set. If you want to check the settings, select Check and press ENTER. If you want to finish, select Exit to exit each screen.

Bass Peak Level

Some audio sources (for example, Dolby Digital and DTS) include ultra-low bass tones. Set the bass limiter as needed to prevent the bass from distorting the soundfrom the subwoofer.

1 Select 'Bass Peak Level' from the Expert setup

The current setting is displayed.

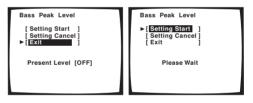


 When [OFF] is displayed the attenuator is off (bass) output is not affected).

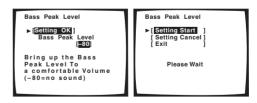


Important

- When [-80] is displayed, no bass is output.
- Select a setup option.



- Setting Start The volume is set to -80dB, a test tone plays back and you make the setting.
- Setting Cancel Switches limiting off.
- 3 If you selected 'Setting Start', use the **↑**/↓ (cursor up/down) buttons to adjust the test tone and specify the bass peak level then press ENTER.



Set the bass peak level gradually, then press ENTER at the point just before the tone starts to distort. When you're finished, the display on the receiver will show **RESUME** and the volume will return to its original position.

- Press RETURN at any time to exit without setting the bass peak level.
- If your subwoofer has an Auto Sleep feature, make sure the subwoofer is active (not in standby).

- If the **YES** or **PLUS** setting on the subwoofer is selected (in *Speaker Setting* on page 50), the test tone will only play back from the subwoofer. If not, the test tone will play back from the front and surround speakers set to **LARGE**.
- 4 When you're finished, select 'Exit'.

You will return to the Expert setup menu.

Dynamic Range Control

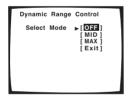
· Default setting: OFF

This setting specifies the amount of dynamic range adjustment to Dolby Digital and DTS movie soundtracks. You may want to use this when listening to surround sound at low volumes.

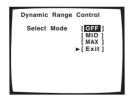
1 Select 'D-Range Control' from the Expert setup menu.



2 Choose the setting that you want.



- **OFF** No dynamic range adjustment (use when listening at higher volume).
- MID Mid setting.
- MAX Dynamic range is reduced (loud sounds are reduced in volume while quieter sounds are increased)
- 3 When you're finished, select 'Exit'.



You will return to the Expert setup menu.



 For general dynamic range control, you can use the Midnight listening mode (see *Using Midnight and Loudness listening* on page 44) on a variety of sources that are not Dolby Digital or DTS encoded.

Chapter 12 Additional information

Troubleshooting

Incorrect operations are often mistaken for trouble and malfunctions. If you think that there is something wrong with this component, check the points below. Sometimes the trouble may lie in another component. Investigate the other components and electrical appliances being used. If the trouble cannot be rectified even after exercising the checks listed below, ask your nearest Pioneer authorized independent service company to carry out repair work.

Power

Symptom	Cause	Remedy
The power does not turn on.	The power plug is disconnected.	Connect the power plug to the wall outlet.
	The protection circuit may have been activated.	Disconnect the power plug from the outlet, and insert again.
	Something is obstructing the rear panel ventilation device.	Unplug the receiver from the wall and call a Pioneer authorized independent service company.
The receiver suddenly switches off.	The speaker wires are frayed or sticking out of the jack, and are touching the back of the receiver or another set of wires.	Reinsert the speaker wires, making sure there are no stray strands of wire and that they are inserted fully.
	The receiver has a serious problem.	Unplug the receiver from the wall and call a Pioneer authorized independent service company.
During loud playback the power suddenly switches off.	The protection circuit has been activated because the lowest actual impedance of the speakers (as opposed to the speakers rated impedance) is dangerously low.	Turn down the volume. When its convenient, go to Acoustic Calibration EQ on page 77 and lower the 63 Hz and 125 Hz equalizer levels using the manual setting. Turning the digital safety feature on may allow you to turn up the volume a little more. To switch between SAFETY ON and SAFETY OFF, put the receiver into standby, then press the & STANDBY/ON button while holding down the MULTI JOG CONTROL SET UP button on the front panel.
The unit does not respond when the buttons are pressed.	Static electricity caused by dry air.	Switch the unit off, then on again. Disconnect the power plug from the outlet, and insert again.
AMP ERR blinks in the display, then the power automatically switches off.	The receiver has a serious problem.	After about a minute (you won't be able to switch the unit on during this time), switch the receiver back on. Ilf the message persists, call a Pioneer authorized independent service company.
FAN STOP blinks in the display, then the power automatically switches off.	Something is obstructing the fan located on the underside of the unit.	Remove the obstruction and try switching the receiver back on. If the fan is still not working, or you can't remove the object, unplug the receiver from the wall and call a Pioneer authorized independent service company.
	The fan is malfunctioning.	Unplug the receiver from the wall and call a Pioneer authorized independent service company.
OVERHEAT blinks in the display and no sound is output.	The internal temperature of the unit has become too high.	After allowing the unit to cool down in a well-ventilated place, try switching the receiver back on. Make sure you follow the guidelines for improving heat dispersal in <i>Ventilation</i> on page 7.
THDCT NG blinks in the display and the unit turns off.	The thermistor (temperature sensor) is broken.	Turn the receiver off, unplug from wall and call a Pioneer-authorized repair center to look at the problem.

No sound

Symptom	Cause	Remedy
No sound is output when an input source is selected.	Improper connections.	Make sure you have properly connected the component to the corresponding input on the back of the receiver (see Connecting your equipment on page 15).
	Sound is muted or the volume is turned down.	Press MUTE or adjust the volume accordingly.
	Speakers are turned off or selected improperly with the SPEAKERS switch.	Press SPEAKERS to select the proper speaker set (see Switching the speaker system on page 65).
	The input signal type is incorrect.	Press SIGNAL SELECT to select the proper input signal (see Selecting the input signal type on page 41).
	The multichannel analog inputs are selected.	Press MULTI CH INPUT again (see Using the multichannel analog inputs on page 40).
No sound output from the front speakers.	The front speakers aren't connected properly.	See Installing your speaker system on page 28 to connect them properly.
No sound from the surround or center speakers.	 Speaker settings are incorrect. (for example, they have been set to NO). 	Check you speaker settings in Speaker Setting on page 50.
	The surround and/or center levels are turned down.	Check the levels in Channel Level on page 51.
	The surround and/or center speakers aren't connected properly.	Check <i>Installing your speaker system</i> on page 28 to make sure the speakers are connected correctly.
	The STEREO listening mode has been selected.	Choose a surround listening mode (see Listening in stereo on page 40).
No sound from surround back speakers.	Surround back speakers are set to NO.	Set the surround back speakers to LARGE or SMALL (see Speaker Setting on page 50).
	The SB CH mode is switched off.	Set the surround back channel to SB CH ON (see page 42).
	The source is not a 6.1 channel playback source.	Choose an advanced effect listening mode (see Listening in surround sound on page 37).
	The surround back speakers aren't connected properly.	Check <i>Installing your speaker system</i> on page 28 to make sure the speakers are connected correctly.
	The surround back channel is on the 1 speaker setting, and your speaker is connected to the right channel output.	Connect the speaker to the surround back left channel output (Installing your speaker system on page 28).
	The SB CH MODE is switched to AUTO and the Dolby Surround EX / DTS ES software you're playing has no flag to indicate it is 6.1 compatible.	You can still listen with surround back sound by setting the surround back channel to SB CH ON (page 42).
No sound from subwoofer.	• The bass attenuator is set too low (for example, the -80 setting).	• See Bass Peak Level on page 82 to adjust the setting.
	The subwoofer isn't connected properly, or it is switched off.	Connect or switch on the subwoofer (see Installing your speaker system on page 28). Make sure the sleep function on your subwoofer isn't activated.
	The subwoofer's settings are incorrect.	Set the subwoofer (see <i>Speaker Setting</i> on page 50) to YES or PLUS.
	The crossover frequency is set too low.	Set the crossover frequency to a (higher) frequency that matches your speaker characteristics (see <i>Crossover</i> <i>Network</i> on page 76)
	There is very little low frequency information in your source.	Change your subwoofer setting to one of the following in the Speaker Setting on page 50: Front: SMALL / Subwoofer: YES Front: LARGE / Subwoofer: PLUS
	The subwoofer's levels are too low.	See Channel Level on page 51 to check the speaker levels.
		Check the volume control on the subwoofer to make sure it is turned up.

Symptom	Cause	Remedy
No sound from one speaker.	The speaker setting has been set to NO.	Change the setting in Speaker Setting on page 50.
	The speaker level is too low.	Check the level in <i>Channel Level</i> on page 51.
	The speaker isn't connected properly.	Check Installing your speaker system on page 28 to make sure the speaker is connected correctly.
	The source has no sound output for that channel.	By choosing an advanced effect listening mode (see Listening in surround sound on page 37), you may be able to create an extra channel for the speaker.
Sound is produced from analog components, but not from digital	The digital input assignment is wrong.	Assign the digital inputs correctly (see Assigning the digital inputs on page 72).
ones (DVD, LD, CD-ROM etc.).	The digital components aren't connected properly.	Make sure you have properly connected the digital component to the corresponding input on the back of the receiver (see <i>Connecting your equipment</i> on page 15).
	• The player is not compatible with the source you're using, or the player settings are incorrect.	Choose a compatible source, or check the component's manual for the correct settings.
	The digital output level has been turned down on a CD player or other component equipped with digital output level adjustment capability.	Set the digital volume level of the player to full, or to the neutral position.
	The multichannel analog inputs are selected.	Press MULTI CH INPUT again (see Using the multichannel analog inputs on page 40).
	Analog input has been selected.	Select digital input (see Selecting the input signal type on page 41).
No sound is output or a noise is output when Dolby Digital/DTS software is played back.	A DVD player not compatible with Dolby Digital/DTS is being used.	Make sure your DVD player is compatible with Dolby Digital/DTS.
	The settings on the DVD player are incorrect and/or the DTS signal output is turned off.	Make sure the player's settings are correct and/or the DTS signal out is on. Refer to the instruction manual supplied with the DVD player.
	The digital output level is turned down on a CD player or other component equipped with digital output level adjustment capability. (The DTS signal has been altered by the player, and cannot be read.)	Set the digital volume level of the player to full, or to the neutral position.

Other audio problems

Symptom	Cause	Remedy
Broadcast stations cannot be selected automatically, or there seems to be considerable noise	FM broadcasts • The FM antenna is not fully extended or is poorly positioned.	Fully extend the FM wire antenna, position for best reception, and secure to a wall.
in radio broadcasts.	Weak radio signals.	Connect an outdoor FM antenna (see page 31).
	AM broadcasts • The AM antenna is poorly positioned.	Adjust the direction and position for best reception.
	Weak radio signals.	Connect an additional internal or external AM antenna (see page 31).
	Interference caused by other equipment (fluorescent lamp, motor, etc.).	Turn off the equipment causing the noise or move it away from the receiver.
		Place the antenna farther away from the equipment causing the noise.
A multi channel DVD source appears to be downmixed from 2 channels during playback.	The source is coming from something other than the MULTI CH IN jacks (for example, digital PCM output, etc.)	Check the MULTI CH IN connection (see Connecting the multichannel analog outputs on page 20) and select the multichannel analog inputs with the MULTI CH IN button (see Using the multichannel analog inputs on page 40).
Noise is output when scanning a DTS CD.	• The scan function performed by the player slightly alters the digital information, making it unreadable.	This is not a malfunction, but be sure to turn the volume down to prevent the output of loud noise from your speakers.
When playing a DTS format LD there is audible noise on the soundtrack.	• The input signal type is set to ANALOG .	Set the input signal type to DIGITAL (see Selecting the input signal type on page 41)

Symptom	Cause	Remedy
Can't record audio.	You are trying to make an analog recording from a digital signal, or a digital recording of an analog source.	You can only record analog to analog, or digital to digital.
	The digital source is copy protected.	You can't record digital sources that have been copy protected.
	The analog REC jacks have not been connected properly.	Check your analog connections (see Connecting analog audio sources on page 26).
Subwoofer output is very low.	The bass attenuator is set too low.	See Bass Peak Level on page 82 to adjust the setting.
	The speaker settings result in very little audio signal being sent to the subwoofer.	Change your subwoofer setting to one of the following in the Speaker Setting on page 50: Front: SMALL / Subwoofer: YES Front: LARGE / Subwoofer: PLUS
Everything seems to be set up correctly, but the playback sound is odd.	The speakers are out of phase.	Check that the positive/negative speaker terminals on the receiver are matched with the corresponding terminals on the speakers (page 28).
Noise or hum can be heard even when there is no sound being input.	There is electrical interference from another component or appliance.	Check that personal computers or other digital components connected to the same power source are not causing interference.
There seems to be a time lag between the speakers and the output of the subwoofer.	The subwoofer channel can be delayed slightly if run through a low-pass filter.	See Automatically setting up for surround sound on page 12 to set up your system again using MCACC (this will automatically compensate for a delay in the subwoofer output).

Video

Symptom	Cause	Remedy
No image is output when an input is selected.	The video connections are incorrect.	• Make sure the video component is connected correctly (see pages 19–27).
	You are using component video connections for your source, but not for your TV.	Using the video converter, video signals can be converted from a composite or S-video input to a component video output, but not vice-versa. See page 16 for more on this.
	You are using component video connections and the component video inputs are assigned incorrectly.	Check Assigning the component video inputs on page 72 to make sure you're assigned the correct input.
	The DVD/video player settings are incorrect.	Set correctly. Refer to the instruction manual supplied with the DVD/video player.
	• The video input selected on the TV monitor is incorrect.	Set correctly. Refer to the instruction manual supplied with the TV.
	Even though the sub room monitor is connected properly, the multi-room feature is switched off.	Press the MULTI ROOM&SOURCE ON/OFF button to switch it on.
	The component video inputs are assigned to a video component connected only to the composite or S-Video terminals.	Check Assigning the component video inputs on page 72 to make sure the component video assign for that video component is switched to OFF .
The System Setup screen doesn't appear.	The MONITOR OUT jack hasn't been connected. You connected your TV to the MULTI ROOM SOURCE MONITOR OUT jack instead of the main MONITOR OUT jack.	Connect the MONITOR OUT jack to the TV monitor (see Connecting your TV on page 18).
	Some TVs connected to the receiver with component video cords do not display the System Setup screen when the Color Burst feature is on.	• When the receiver is in standby, switch to COLOR BURST OFF by holding down the MULTI JOG CONTROL RETURN button and pressing & STANDBY/ON. (the current setting appears in the display).
Screen noise when playing back a video source.	The video source signal has a problem.	If your video connections use mixed cable types (for example RCA standard video to a component video connection), you may want to try connecting your system using only one cable type (for example, use RCA standard video cable for all connections).

Symptom	Cause	Remedy
Can't record video.	You are trying to record a source connected to the component video jacks.	• Connect the source component to either the composite video or the S video jacks (see <i>Connecting your equipment</i> on page 15).
	The source is copy protected.	You can't record sources that have been copy protected.
	 The recorder's video input is hooked up using a different type of cord to the source video output. 	Hook up the source and the recorder using the same type of video cord (see <i>Making an audio or a video recording</i> on page 62).

Settings

Symptom	Cause	Remedy
The Auto Surround Setup continually shows an error.	The ambient noise level in the room is too high, or obstacles are blocking the setup microphone.	Keep the noise level in the room as low as possible when using the Auto Surround Setup (see Other problems when using the Auto Surround Setup on page 14 for more on this). If the noise cannot be kept low enough, you will have to set up the surround sound manually (page 49).
After using the Auto Surround Setup, the speaker size setting (LARGE or SMALL) is incorrect.	There was some inaudible low-frequency noise in the room.	The low-frequency noise could have been caused by an air conditioner or motor. Switch off all appliances in the room and rerun the Auto Surround Setup.
The display shows KEY LOCK ON when you try to make settings.	Your Pioneer dealer has enabled the key lock feature.	Ask your Pioneer dealer to disable the key lock.

Display

Symptom	Cause	Remedy
The display is dark or off.	The display is set to dark or off.	• Press DIMMER on the remote control repeatedly to select a different brightness.
After making an adjustment the display goes off.	The display is set to off.	Press DIMMER on the remote control repeatedly to select a different brightness.
You can't get DIGITAL to display when using the SIGNAL SELECT button.	There is a problem with the digital connections or the digital input is assigned incorrectly.	• Check your digital connections and/or assign the digital inputs correctly (see <i>Assigning the digital inputs</i> on page 72).
	The multichannel analog inputs are selected.	Press MULTI CH INPUT again (see Using the multichannel analog inputs on page 40).
The Dolby/DTS indicator doesn't	The player is paused.	Press play.
light when playing Dolby/DTS software.	The player's sound output settings are wrong.	Set the player correctly (consult the manual that came with the player, if necessary).
When playing a DVD-Audio CD, the DVD player display shows 96 kHz . However, the receiver's display does not.	The audio from these discs is output from the analog audio jacks of the DVD player only; the receiver does not show the sampling rate of the input signal through the analog inputs.	This is not a malfunction. See also the operating instructions that came with your DVD player.
During playback of a DTS 96/24 source, the display doesn't show 96kHz .	The receiver's input signal type is set to analog.	• Set the receiver to AUTO or DIGITAL (see <i>Selecting the input signal type</i> on page 41).
When playing Dolby Digital or DTS sources, the receiver's format indicators do not light.	No digital connection, or the digital connection is incorrect.	Check the digital audio connection (page 19).
	The receiver's input signal type is set to analog.	• Set the receiver to AUTO or DIGITAL (see <i>Selecting the input signal type</i> on page 41).
	The DVD player is set to output Dolby Digital and/or DTS audio as PCM.	Check the settings on the player. Set the output for Dolby Digital and DTS (no PCM conversion). See also the operating instructions that came with your DVD player.
	The disc has several playback audio tracks; the one currently playing is actually PCM.	Switch the playback audio channel on your DVD player. See the operating instructions that came with your DVD player.
When playing certain discs, none of the receiver's format indicators light.	The audio format of the disc is not 5.1/6.1 channel.	This is not a malfunction. Check the disc packaging for details of the audio formats available on the disc.

Symptom	Cause	Remedy
When playing a disc, the DI PRO LOGIC II or Neo:6	The input signal type is set to analog.	• Set the receiver to AUTO or DIGITAL (see <i>Selecting the input signal type</i> on page 41).
indicator lights on the receiver.	A 2 channel soundtrack is currently playing.	This is not a malfunction. Check the disc packaging for details of the audio formats available on the disc.
	The soundtrack currently playing is encoded using Dolby Surround.	This is not a malfunction. Check the disc packaging for details of the audio formats available on the disc.
During playback of a Surround EX or DTS ES source on the SB CH AUTO setting, the EX and ES indicators don't light, or the signal is not properly processed.	•The source may be Dolby Surround EX / DTS ES software, but it has no flag to indicate it is 6.1 compatible.	Switch the surround back channel setting (page 42) to SB CH ON then switch to the THX Surround EX or Standard EX listening mode (see Listening in surround sound on page 37).

Remote control

Symptom	Cause	Remedy
Cannot be remote controlled.	• The remote control batteries have worn out.	• Replace the batteries (see <i>Loading the batteries</i> on page 7).
	Too far away or improper angle of operation.	Operate within 23 feet and a 30° angle of the remote sensor on the front panel (see <i>Operating range of the</i> remote control on page 8).
	There is an obstacle between the receiver and the remote control.	Remove the obstacle or move to another place.
	• Strong light such as fluorescent light is shining onto the unit's remote control sensor.	Avoid exposing the remote sensor on the front panel to direct light.
	Something is plugged into the CONTROL IN jack.	• Unplug the cable from the CONTROL IN jack and use remote normally (see <i>Operating other Pioneer components with this unit</i> 's <i>sensor</i> on page 60).
	The IR receiver type is mismatched with the setting.	• Disconnect the IR receiver from the rear panel or set to the other IR receiver type (see <i>Multi-Room and IR receiver setup</i> on page 74).
Other components can't be operated with the system remote.	The preset code settings are wrong.	Input the correct preset code.
	The batteries wore out and the system settings were cleared.	Reset the proper system settings.
The SR cable is connected, but the connected components can't be operated with the remote.	The SR cable hasn't been connected properly.	• Reinsert the SR cable, making sure it's connected to the right jack (see <i>Operating other Pioneer components with this unit's sensor</i> on page 60).
	The rest of the component connections have not been made.	Make sure an analog connection has been made between the units.
	• The component you have hooked up is not a Pioneer product.	This feature only works with Pioneer products.

[•] For information about using the remote control in the sub room, please contact your local Pioneer dealer or the Pioneer Customer Support division.



• If the unit does not operate normally due to external effects such as static electricity, disconnect the power plug from the outlet and insert again to return to normal operating conditions.

Surround sound formats

Below is a brief description of the main surround sound formats you'll find on DVDs, satellite, cable and terrestrial broadcasts, and video cassettes.

Dolby

The Dolby technologies are explained below. See www.dolby.com for more detailed information.



Dolby Digital

Dolby Digital is a multichannel digital audio coding system widely used in cinemas, and in the home for DVD and digital broadcast soundtracks. It can deliver up to six discrete audio channels, comprising five full range channels and a special LFE (low frequency effects) channel used mainly for deep, rumbling sound effects; hence the term "5.1-channel" Dolby Digital.

In addition to the format features above, Dolby Digital decoders offer downmixing for compatibility with mono, stereo and Dolby Pro Logic audio from a number of bit rates and channels. Another feature, called Dialog Normalization, attenuates programs based on the average level of dialog in a program relative to its peak level (also known as Dialnorm) in order to achieve uniform playback level.

Dolby Digital Surround EX

Dolby Digital Surround EX (the EX stands for EXtended) is an extension of Dolby Digital encoding whereby a surround back channel is matrixed into the surround left/right channels for 6.1 channel playback. This allows for compatibility with Dolby Digital 5.1 channel decoding, as well as for decoding using Dolby Digital EX.

Dolby Pro Logic IIx and Dolby Surround

Dolby Pro Logic IIx is an improved version of the Dolby Pro Logic II (and Dolby Pro Logic) *decoding* system. Using the innovative "steering logic" circuit, this system extracts surround sound from sources as follows:

- **Dolby Pro Logic** 4.1 channel sound (mono surround) from any stereo source
- **Dolby Pro Logic II** 5.1 channel sound (stereo surround) from any stereo source
- Dolby Pro Logic IIx 6.1 or 7.1 channel sound (stereo surround and surround back) from two channel or 5.1(and 6.1) channel sources

With two channel sources, the ".1" subwoofer channel is generated by bass management in the receiver.

Dolby Surround is an *encoding* system which embeds surround sound information within a stereo soundtrack, which a Dolby Pro Logic decoder can then use for enhanced surround listening with greater sound detail.

Manufactured under license from Dolby Laboratories. "Dolby", "Pro Logic", "Surround EX" and the double-D symbol are trademarks of Dolby Laboratories.

DTS

The DTS technologies are explained below. See www.dtstech.com for more detailed information.



DTS Digital Surround

DTS Digital Surround is a 5.1-channel audio coding system from Digital Theater Systems Inc. now widely used for DVD-Video, DVD-Audio, 5.1 music discs, digital broadcasts, and video games. It can deliver up to six discrete audio channels, comprising five full range channels, including an LFE channel. Higher sound quality is achieved through the use of a low compression rate, and high rates of transmittance during playback.

DTS-ES

DTS-ES (the ES stands for Extended Surround) is a decoder that is capable of decoding both DTS-ES Discrete 6.1 and DTS-ES Matrix 6.1 encoded sources. DTS-ES Discrete 6.1 gives 'true' 6.1 channel sound, with a completely separate (discrete) surround back channel. DTS-ES Matrix 6.1 has a surround back channel matrixed into the surround left/right channels. Both sources are also compatible with a conventional DTS 5.1 channel decoder.

DTS Neo:6

DTS Neo:6 can generate 6.1 channel surround sound from any matrixed stereo source (such as video or TV) and from 5.1 channel sources. It uses both the channel information already encoded into the source, as well as its own processing to determine channel localization (with two channel sources, the ".1" subwoofer channel is generated by bass management in the receiver). Two modes (Cinema and Music) are available using DTS Neo:6 with two channel sources.

DTS 96/24

DTS 96/24 is an extension of the original DTS Digital Surround which offers high quality 96 kHz / 24-bit audio using a DTS 96/24 decoder. This format is also fully backward compatible with all existing decoders. This means that DVD players can play this software using a conventional DTS 5.1 channel decoder.

"DTS", "DTS-ES", "Neo:6" and "DTS 96/24" are trademarks of Digital Theater Systems, Inc.

About THX

The THX technologies are explained below. See www.thx.com for more detailed information.



THX Cinema processing

THX is an exclusive set of standards and technologies established by the world-renowned film production company, Lucasfilm Ltd. THX grew from George Lucas' personal desire to make your experience of the film soundtrack, in both movie theatres and in your home theatre, as faithful as possible to what the director intended. Movie soundtracks are mixed in special movie theatres called dubbing stages and are designed to be played back in movie theatres with similar equipment and conditions. This same soundtrack is then transferred directly onto Laserdisc, VHS tape, DVD, etc., and is not changed for playback in a small home theatre environment. THX engineers developed patented technologies to accurately translate the sound from the movie theatre environment into the home, correcting the tonal and spatial errors that occur. On this product, when the THX indicator is on, THX features are automatically added in Cinema modes (e.g. THX Cinema, THX Surround EX).

Re-Equalization

The tonal balance of a film soundtrack will be excessively bright and harsh when played back over audio equipment in the home because film soundtracks were designed to be played back in large movie theaters using very different professional equipment. Re-Equalization restores the correct tonal balance for watching a movie soundtrack in a small home environment.

Timbre Matching

The human ear changes our perception of a sound depending on the direction from which the sound is coming. In a movie theatre, there is an array of surround speakers so that the surround information is all around you. In a home theatre, you use only two speakers located to the side of your head. The Timbre Matching feature filters the information going to the surround speakers so that they more closely match the tonal characteristics of the sound coming from the front speakers. This ensures seamless panning between the front and surround speakers.

Adaptive Decorrelation

In a movie theatre, a large number of surround speakers help create an enveloping surround sound experience, but in a home theatre there are usually only two speakers. This can make the surround speakers sound like headphones that lack spaciousness and envelopment.

The surround sounds will also collapse into the closest speaker as you move away from the middle seating position. Adaptive Decorrelation slightly changes one surround channel's time and phase relationship with respect to the other surround channel. This expands the listening position and creates—with only two speakers—the same spacious surround experience as in a movie theatre.

THX Select

Before any home theatre component can be THX Select certified, it must incorporate all the features above and also pass a rigorous series of quality and performance tests. Only then can a product feature the THX Select logo, which is your guarantee that the Home Theatre products you purchase will give you superb performance for many years to come. THX Select requirements cover every aspect of the product including pre-amplifierand power amplifier performance and operation, and hundreds of other parameters in both the digital and analog domain.

THX Surround EX

THX Surround EX - Dolby Digital Surround EX is a joint development of Dolby Laboratories and the THX Ltd. In a movie theater, film soundtracks that have been encoded with Dolby Digital Surround EX technology are able to reproduce an extra channel which has been added during the mixing of the program. This channel, called Surround Back, places sounds behind the listener in addition to the currently available front left, front center, front right, surround right, surround left and subwoofer channels. This additional channel provides the opportunity for more detailed imaging behind the listener and brings more depth, spacious ambience and sound localization than ever before. Movies that were created using the Dolby Digital Surround EX technology, when released into the home consumer market may exhibit wording to that effect on the packaging. A list of movies created using this technology can be found on the Dolby web site at www.dolby.com.

Only receiver and controller products bearing the THX Surround EX logo, when in the THX Surround EX mode, faithfully reproduce this new technology in the home.

This product may also engage the "THX Surround EX" mode during the playback of 5.1 channel material that is not Dolby Digital Surround EX encoded. In such case the information delivered to the Surround Back channel will be program dependent and may or may not be very pleasing depending on the particular soundtrack and the tastes of the individual listener.

THX is a trademark or registered trademark of THX Ltd. Surround EX is a jointly developed technology of THX and Dolby Laboratories Inc. and is a trademark of Dolby Laboratories Inc. Used under authorization. All rights reserved.

Preset code brands

DVD	MATSUSHITA 5095, 5096	JC PENNY 3064, 3065, 3066	6020, 6021
	MEDION 5097	3067, 3068, 3069	NEC 6022, 6023
Manufacturer Code	MITSUBISHI 5098, 5099	JVC 3070, 3071, 3072	OAK 6024, 6025, 6026
PIONEER 1001, 1002, 1003	MIVAR 5100	KENDO 3073	PANASONIC 6027, 6028, 6029
DENON 1004 JVC 1005	NEC 5101, 5102	KENWOOD 3074, 3075, 3076	PHILIPS 6030, 6031
JVC 1005 PANASONIC 1002	NOKIA OCEANIC 5103	LOEWE 3077, 3078	PRIMESTAR 6048
PHILIPS 1006	NORDMENDE 5104, 5105 OKANO 5106	LUXOR 3079 LXI 3080, 3081, 3082, 3083	RADIO SHACK 6032 RCA 6033
RCA 1007	ONWA 5106	3084, 3085, 3086	RCA 6033 SAMSUNG 6034, 6035
SAMSUNG 1008	PANASONIC 5108, 5109	MARANTZ 3087, 3088	SCIENTIFIC ATLANTA
SONY 1009	5110, 5111	MARTA 3089	6036, 6037, 6038
TOSHIBA 1010	PHILCO 5112, 5113, 5114	MATSUI 3090	SIEMENS 6039, 6040
YAMAHA 1011, 1012	PHILLIPS 5004	MEMOREX 3091, 3092	SONY 6041
	PHONOLA 5115	MINOLTA 3093, 3094	STAR CHOICE 6048
LD	PORTLAND 5116, 5117	MITSUBISHI 3095, 3096	TOSHIBA 6042, 6043
Manufacturer Code	PROSCAN 5118 QUASAR 5119, 5120	3097, 3098, 3099 MULTITECH 3100, 3101, 3102	TOCOM 6044 ZENITH 6045, 6046
PIONEER 2001, 2002	RADIO 5121, 5122	NEC 3100, 3101, 3102	ZEMITH 0045, 0040
DENON 2003	RADIO SHACK 5123, 5124	NOKIA OCEANIC 3104	CD/CD D
KENWOOD 2004	5125	NOKIA 3105, 3106	CD/CD-R
PANASONIC 2005	RADIOLA 5126	NORDMENDE 3107	Manufacturer Code
PHILIPS 2006, 2007	RCA/PROSCAN 5127, 5128	OKANO 3108	PIONEER 7001, 7002
SONY 2008	5129	OLYMPIC 3109, 3110	DENON 7003, 7004, 7005
YAMAHA 2009	SABA 5130	ORION 3111	FISHER 7006, 7007
T) (SAMSUNG 5131, 5132	PANASONIC 3112, 3113, 3114	JVC 7008, 7009, 7010
TV	SANYO 5133, 5134, 5135 SCHNE I DER 5136	3115, 3116, 3117 PENTAX 3118, 3119	7011 KENWOOD 7012 7013 7014
Manufacturer Code	SCOTT 5137, 5138	PHILCO 3120, 3121	KENWOOD 7012, 7013, 7014, 7015, 7016
PIONEER 5001, 5002, 5003	SHARP 5139, 5140	PHILIPS 3120, 3121	MAGNAVOX 7017, 7018
5004, 5005, 5006	SIEMENS 5141	PHONOLA 3123	MARANTZ 7019
5007, 5008, 5009	SIGNATURE 5142, 5143	QUASAR 3124, 3125	ONKYO 7020, 7021
5010	SONY 5144, 5145	RCA/PROSCAN 3126	PANASONIC 7022, 7023
ADMIRAL 5011, 5012, 5013	SYLVANIA 5146, 5147	REALISTIC 3127, 3128, 3129	PHILIPS 7024, 7025
AIWA 5014, 5015 AKAI 5016	SYMPHONIC 5148	3130, 3131, 3132	RCA 7026, 7027
AKAI 5016 ALBA 5017	TATUNG 5149 TELEFUNKEN 5150, 5151	SABA 3133 SAMSUNG 3134, 3135	SANYO 7028
AOC 5017	THORN 5150, 5151	SANSUI 3136	SHARP 7029 SONY 7030
BESTAR 5019	TOSHIBA 5153, 5154	SANYO 3137, 3138	TEAC 7031, 7032, 7033
BLAUPUNKT 5020	UNIVERSUM 5155	SCHNE I DER 3139, 3140	TECHNICS 7034, 7035
BLUE SKY 5021	VIDECH 5156, 5157	SCOTT 3141, 3142, 3143,	YAMAHA 7036, 7037, 7038,
BRANDT 5022	W. WHOUSE 5158	3144, 3145, 3146, 3147	7039
BROCSONIC 5023	WARDS 5159, 5160, 5161	SEG 3148	DENON 7040, 7041
BUSH 5024	WATSON 5162	SELECO 3149	JVC 7042
CLATRONIC 5025 CRAIG 5026, 5027, 5028	ZENITH 5163, 5164	SHARP 3150, 3151, 3152 SIEMENS 3153, 3154, 3155	KENWOOD 7043
5029	VOD	SIEMENS 3153, 3154, 3155 SIGNATURE 3156, 3157	PHILIPS 7044 SONY 7045
CROSLEX 5030	VCR		3011 7043
CURTIS MATHIS 5031, 5032	Manufacturer Code	SONY 3158, 3159, 3160 3161, 3162, 3163	DVD
5033	PIONEER 3001, 3002, 3003	SYLVANIA 3164, 3165	DVR
DAEWOO 5034, 5035, 5036	3004, 3005	3166, 3167	Manufacturer Code
5037, 5038, 5039	ADMIRAL 3006	SYMPHONIC 3168	PIONEER 4001
DAYTRON 5040 DUAL 5041	AIWA 3007, 3008, 3009	TANDBERG 3169	
DUAL 5041 EMERSON 5042, 5043, 5044	AKAI 3010, 3011 ALBA 3012	TASHIRO 3170 TATUNG 3171, 3172	MD
5045, 5046, 5047	AUDIO DYNAMIC 3013, 3014	TEAC 3173, 3174, 3175	Manufacturer Code
5045, 5046, 5047	BELL&HOWELL 3015	TECHNICS 3176, 3177	PIONEER 8001, 8002, 8003
5048	BLAUPUNKT 3016, 3017	TELEFUNKEN 3178, 3179	DENON 8004
FERGUSON 5049, 5050	BROCSONIC 3018, 3019	THORN 3180, 3181	JVC 8005
FIRST 5051	BUSH 3020	TOSHIBA 3182, 3183, 3184	KENWOOD 8006
FISHER 5052	CANON 3021	UNIVERSUM 3185, 3186, 3187	SONY 8007
FUJITSU 5053 FUNAI 5054, 5055, 5056	CGM 3022, 3023	W. WHOUSE 3188 WARDS 3189, 3190, 3191	SHARP 8002
GE 5057, 5058, 5059	CITIZEN 3024 CLATRONIC 3025	3192, 3193	YAMAHA 8008, 8009
5060	CRAIG 3025	YAMAHA 3194, 3195, 3196	T4.DE
GOLDSTAR 5061, 5062, 5063	CURTIS MATHIS 3027, 3028	ZENITH 3194, 3195, 3190	TAPE
5064	3029	3107	Manufacturer Code
GOODMANS 5065, 5066	DAEWOO 3030, 3031, 3032	STB	PIONEER 9001, 9002
HITACHI 5067, 5068, 5069	DBX 3033, 3034		DENON 9003, 9004
5070, 5071	DIMENSIA 3035	Manufacturer Code	FISHER 9005, 9006
ICE 5072 IRRADIO 5073	EMERSON 3036, 3037, 3038	PIONEER 6001, 6002, 6003	JVC 9007, 9008
ITT/NOKIA 5074, 5075	3039, 3040, 3041 EERGUSON 3042	6004, 6005, 6006	KENWOOD 9009, 9010, 9011
JC PENNY 5076, 5077	FERGUSON 3042 FISHER 3043, 3044, 3045	BELL 6049 BLAUPUNKT 6007	NAKAMICHI 9012
5078, 5079	3045, 3044, 3045	ECHOSTAR 6047	ONKYO 9013, 9014, 9015 PHILIPS 9016, 9017
JVC 5080, 5081	FUNAI 3047, 3048	GENERAL INSTRUMENT	SONY 9018, 9019
KENDO 5082	GE 3049, 3050, 3051	6008	TEAC 9020, 9021
KTV 5083, 5084	GOLDSTAR 3052	GOLDSTAR 6009	TECHNICS 9022
LOEWE 5085	GOODMANS 3053, 3054	GRUNDIG 6010, 6011	YAMAHA 9023, 9024, 9025,
LXI 5086, 5087, 5088	GRUNDIG 3055	HAMLIN 6012, 6013	9026
5089, 5090 MAGNAVOX 5091	HITACHI 3056, 3057, 3058	HNS/HUGHES 6014	
MARK 5092	3059, 3060 INSTANT REPLAY 3061, 3062	HITACHI 6015 ITT/NOKIA 6016	
MATSUI 5093, 5094	ITT/NOKIA 3063	JERROLD 6017, 6018, 6019	
	,11011	52. 11525 5017, 0010, 0019	

Specifications

Amplifier section

Continuous average power output of 110 watts* per channel, min., at 8 ohms, from 20 Hz to 20,000 Hz with no more than 0.09%** total harmonic distortion (front).

Continuous	Power	Output
COLLINADAS	LOWEI	Outbut

Front	110 W +	110 W (20 Hz-20 kHz, 0.09%)
Center		110 W (20 Hz-20 kHz, 0.09%)
Surround	110 W +	110 W (20 Hz-20 kHz, 0.09%)
Surround back	110 W \pm	110 W (20 Hz-20 kHz, 0.09%)

Audio Section

7.0.0
Input (Sensitivity/Impedance)
LINE 335 mV/47 kΩ
Frequency Response
LINE
Output (Level/Impedance)
LINE
Tone Control
BASS ± 6 dB (100 Hz)
TREBLE ± 6 dB (10 kHz)
LOUDNESS+4/+2 dB (100Hz/10 kHz)
(at volume position -40dB)
Signal-to-Noise Ratio (IHF, short circuited, A network)
LINE 101 dB
Signal-to-Noise Ratio [EIA, at 1W (1kHz)]
LINE 83 dB

^{*} Measured pursuant to the Federal Trade Commission's Trade Regulation rule on Power Output Claims for Amplifiers ** Measured by Audio Spectrum Analyzer

Composite Video / S-Video Section

Input (Sensitivity/Impedance) 1 Vp-p/75 Ω	
Output (Level/Impedance) 1 Vp-p/75 9	
Signal-to-Noise Ratio 65 dB	
Frequency Response 5 Hz to 10 MHz ± dB	

Component Video Section

Input (Sensitivity/Impedance) 1 Vp-p/75 Ω
Output (Level/Impedance) 1 Vp-p/75 Ω
Signal-to-Noise Ratio 65 dB
Frequency Response 5 Hz to 100 MHz ± dB

FM Tuner Section

TW Turier Section
Frequency Range 87.5 MHz to 108 MHz
Usable Sensitivity Mono: 13.2 dBf, IHF (1.3 μ V/75 Ω
50 dB Quieting Sensitivity Mono: 20.2 dB
Stereo: 38.6 dBt
Signal-to-Noise Ratio Mono: 73 dB (at 85 dBf
Stereo: 70 dB (at 85 dBf
Distortion Stereo: 0.5% (1 kHz
Alternate Channel Selectivity 60 dB (400 kHz)
Stereo Separation
Frequency Response
Antenna Input

AM Tuner Section

Frequency Range 530 kHz to 1,700 kHz
Sensitivity (IHF, Loop antenna) 350 μ V/m
Selectivity
Signal-to-Noise Ratio 50 dB
Antenna Loop antenna

Miscellaneous

Power RequirementsAC 120 V, 60 Hz
Power Consumption
Power Consumption in standby0.8W
AC outlet (switched) 100 W (0.8 A) MAX
Dimensions
$(16-9/16 \text{ (W)} \times 7-7/16 \text{ (H)} \times 18-5/16 \text{ (D) in.})$
Weight (without package)18.0 kg (39.7 lb)

Furnished Parts

Microphone	
Microphone stand	
Remote control unit	
"AA" IEC LR6 batteries	
AM loop antenna1	
FM wire antenna 1	
Warranty card1	
These operating instructions	



 Specifications and the design are subject to possible modifications without notice, due to improvements.

Maintenance of external surfaces

- Use a polishing cloth or dry cloth to wipe off dust and dist
- When the surfaces are dirty, wipe with a soft cloth dipped in some neutral cleanser diluted five or six times with water, and wrung out well, and then wipe again with a dry cloth. Do not use furniture wax or cleaners.





Dear Customer:

Selecting fine audio equipment such as the unit you've just purchased is only the start of your musical enjoyment. Now it's time to consider how you can maximize the fun and excitement your equipment offers. This manufacturer and the Electronic Industries Association's Consumer Electronics Group want you to get the most out of your equipment by playing it at a safe level. One that lets the sound come through loud and clear without annoying blaring or distortion-and, most importantly, without affecting your sensitive hearing.

Sound can be deceiving. Over time your hearing icomfort levelî adapts to higher volumes of sound. So what sounds inormalî can actually be loud and harmful to your hearing. Guard against this by setting your equipment at a safe level BEFORE your hearing adapts.

To establish a safe level:

Start your volume control at a low setting. Slowly increase the sound until you can hear it comfortably and clearly, and without distortion.

Once you have established a comfortable sound level:

Set the dial and leave it there.

Taking a minute to do this now will help to prevent hearing damage or loss in the future. After all, we want you listening for a lifetime.

We Want You Listening For A Lifetime

Used wisely, your new sound equipment will provide a lifetime of fun and enjoyment. Since hearing damage from loud noise is often undetectable until it is too late, this manufacturer and the Electronic Industries Association(s Consumer Electronics Group recommend you avoid prolonged exposure to excessive noise. This list of sound levels is included for your protection.

Decibel Level Example

- 30 Quiet library, soft whispers
- 40 Living room, refrigerator, bedroom away from traffic
- 50 Light traffic, normal conversation, quiet office
- 60 Air conditioner at 20 feet, sewing machine
- 70 Vacuum cleaner, hair dryer, noisy restaurant
- 80 Average city traffic, garbage disposals, alarm clock at two feet.

THE FOLLOWING NOISES CAN BE DANGEROUS UNDER CONSTANT EXPOSURE

- 90 Subway, motorcycle, truck traffic, lawn mower
- 100 Garbage truck, chain saw, pneumatic drill
- 120 Rock band concert in front of speakers, thunderclap
- 140 Gunshot blast, jet plane
- 180 Rocket launching pad

Information courtesy of the Deafness Research Foundation.





5001 Fn

Should this product require service in the U.S.A. and you wish to locate the nearest Pioneer Authorized Independent Service Company, or if you wish to purchase replacement parts, operating instructions, service manuals, or accessories, please call the number shown below.

800-421-1404

Please do not ship your product to Pioneer without first calling the Customer Support Division at the above listed number for assistance.

Pioneer Electronics (USA) Inc. Customer Support Division P.O. BOX 1760, Long Beach, CA 90801-1760, U.S.A.

For warranty information please see the Limited Warranty sheet included with your product.

Should this product require service in Canada, please contact a Pioneer Canadian Authorized Dealer to locate the nearest Pioneer Authorized Service Company in Canada.

Alternatively, please contact the Customer Satisfaction Department at the following address:

Pioneer Electronics of Canada, Inc. Customer Satisfaction Department 300 Allstate Parkway, Markham, Ontario L3R OP2 (905)479-4411 1(877)283-5901

For warranty information please see the Limited Warranty sheet included with your product.

Si ce produit doit être réparé au Canada, veuillez vous adresser à un distributeur autorisé Pioneer du Canada pour obtenir le nom du Centre de Service Autorisé Pioneer le plus près de chez-vous. Vous pouvez aussi contacter le Service à la clientèle de Pioneer:

Pioneer Électroniques du Canada, Inc. Service à la clientèle 300, Allstate Parkway, Markham, Ontario L3R OP2 (905)479-4411 1(877)283-5901

Pour obtenir des renseignements sur la garantie, veuillez vous reporter au feuillet sur la garantie restreinte qui accompagne le produit.

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PIONEER CORPORATION 4-1, Meguro 1-Chome, Meguro-ku, Tokyo 153-8654, Japan
PIONEER ELECTRONICS (USA) INC. P.O. BOX 1540, Long Beach, California 90810-1540, U.S.A. TEL: (800) 421-1404
PIONEER ELECTRONICS OF CANADA, INC. 300 Allstate Parkway, Markham, Ontario L3R OP2, Canada TEL: (905) 479-4411
PIONEER EUROPE NV Haven 1087, Keetberglaan 1, B-9120 Melsele, Belgium TEL: 03/570.05.11
PIONEER ELECTRONICS ASIACENTRE PTE. LTD. 253 Alexandra Road, #04-01, Singapore 159936 TEL: 656-472-1111
PIONEER ELECTRONICS AUSTRALIA PTY. LTD. 178-184 Boundary Road, Braeside, Victoria 3195, Australia, TEL: (03) 9586-6300
PIONEER ELECTRONICS DE MEXICO S.A. DE C.V.

Blvd.Manuel Avila Camacho 138 10 piso Col.Lomas de Chapultepec, Mexico, D.F. 11000 TEL: 55-9178-4270

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